ROAD and TRACK

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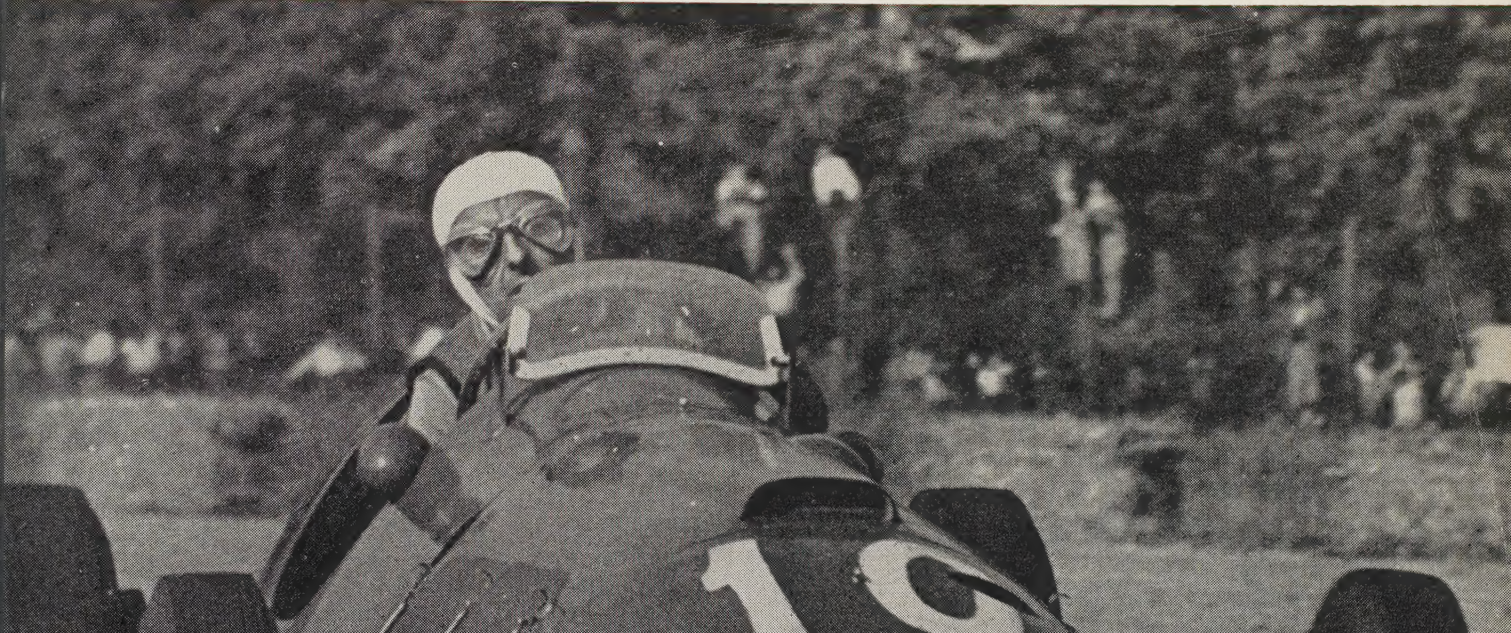
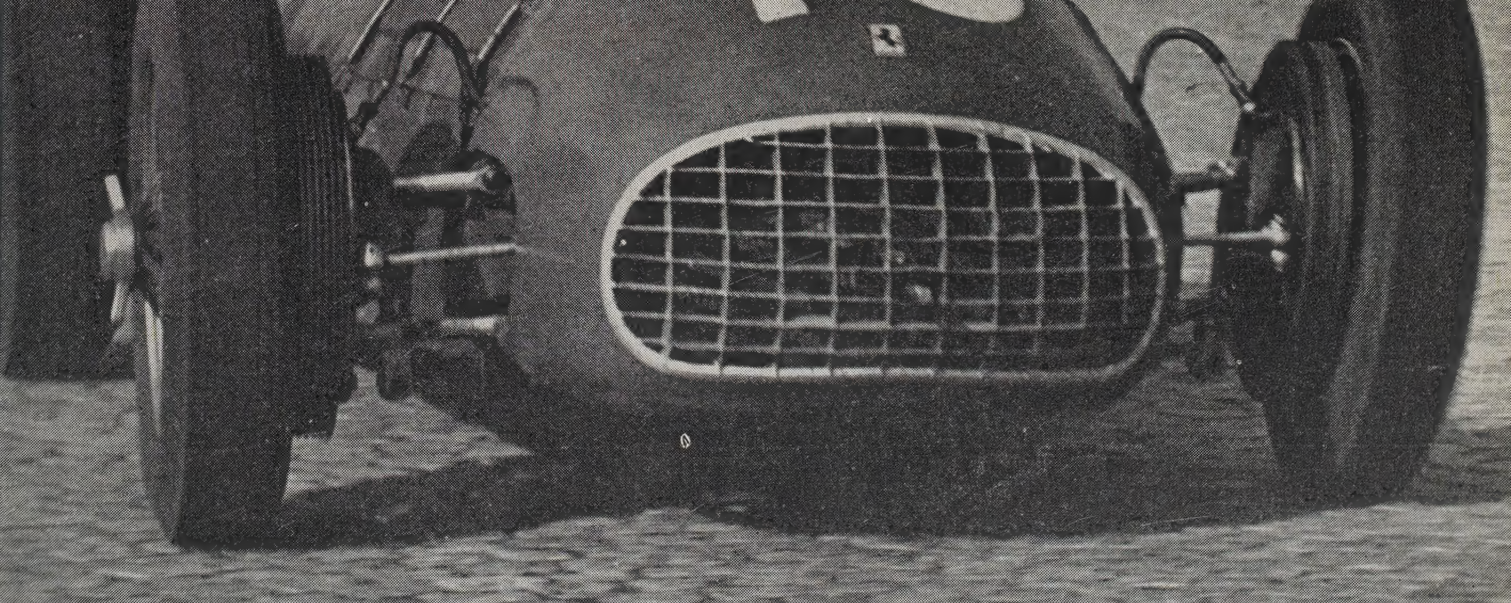
EPTEMBER, 1950

VILLORESI AT SPEED IN FORMULA 2 FERRARI—PAGE 17

The Motor Enthusiasts' Magazine

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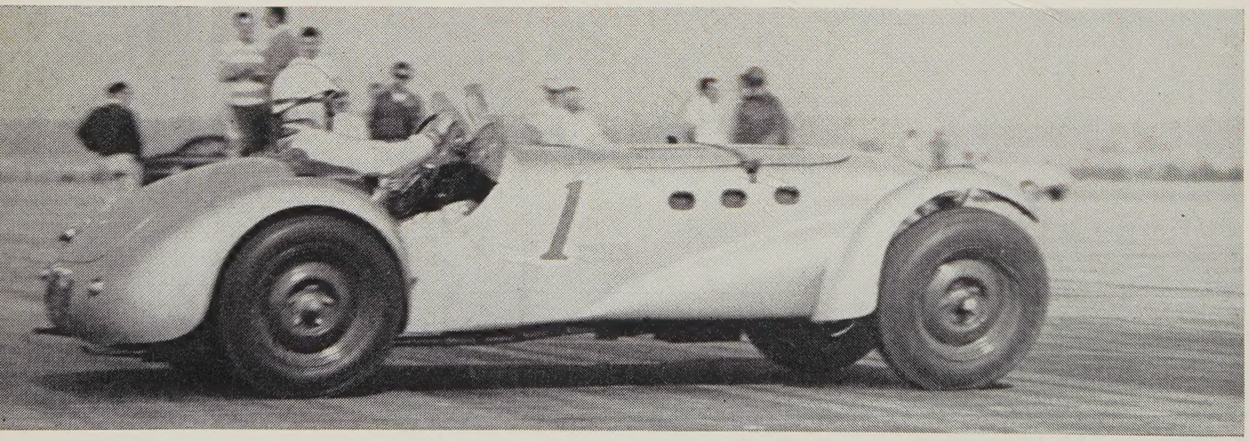

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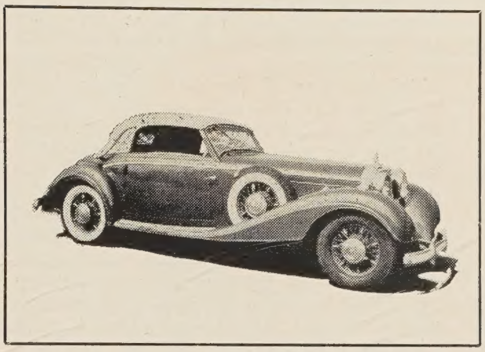
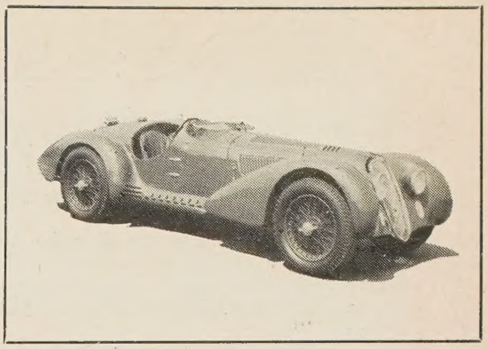
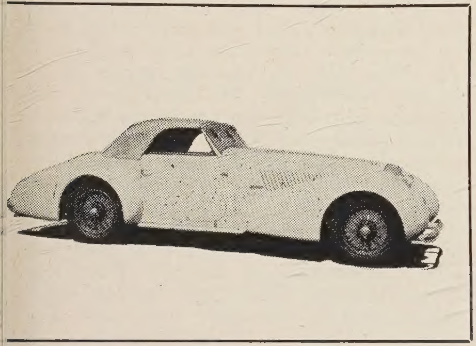




Alfa Romeo 2.9 litre Mille Miglia. New bright red paint and upholstery, less than one hundred miles on engine since complete rebuilding. Rear end and transmission recently overhauled.

Alfa Romeo 2.9 litre convertible coupe vith Farina body. New gray paint and lue leather upholstery. Engine newly ebuilt.



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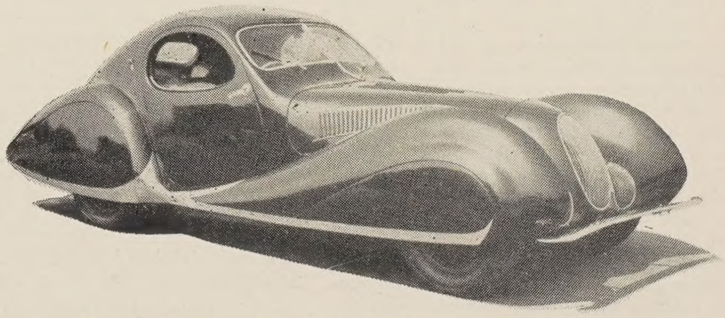
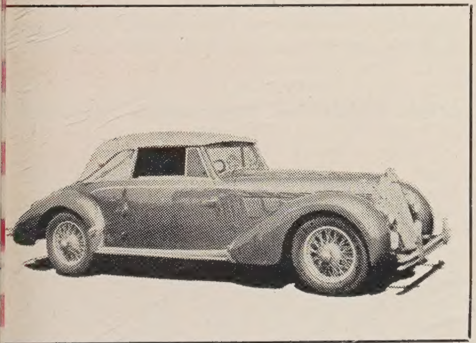
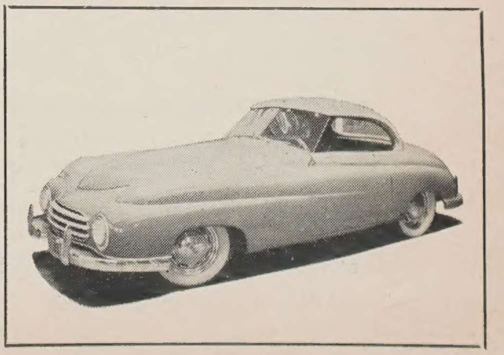


Talbot—4 litre Lago Engine. Figoni Falaschi body, good paint, Parma wine color. New two-tone leather upholstery. Engine rebuilt and has since run less than five hundred miles. Wilson gear box and rear end in excellent condition.



Talbot Lago 4½ litre convertible coupe, Washington blue paint job. Blue leather upholstery. Wilson pre-selective ransmission. Fine condition thruout.

Fiat 1100 cc supercharged Castagna Body Convertible Coupe, Olive green body with grey top. This car first registered in November 1949, actual mileage is less than five hundred.



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CORRESPONDENCE

AUSTIN RECORDS

We have noted Mr. Bob Gegen's letter regarding the Austin stock car records in the Correspondence column of your July-August issue.

Mr. Gegen's comments regarding the A-40 records are, of course, correct, but he has been slightly misinformed regarding the 7-day run at Indianapolis which took place in April, 1949.

Austin's first attempt at a 7-day run was defeated due to engine failure and following this a second engine was installed in the same car. The point is that after the second engine was installed the 7-day attempt was re-started and it is certainly not fair to say that two engines were required to make the 7-day run. Austin's procedure was just as ethical as though they had started two automobiles concurrently on a 7-day attempt and then had one of them suffer engine failure after two or three days and the other one continue on successfully.

David L. Gundry
Washington, D. C. Contest Board AAA

AUSTIN RECORDS AND LE MANS DU PONT

To get into the highly spiced battle, it seems to me that Bob Gegen is being a bit unfair to Austin when he so phrases his letter that it appears as if the record-breaking A-90 used two engines during the seven day run. I doubt that this was his intention, but the phraseology would make it seem so.

It is quite true that after running roughly a day and a half, one engine was replaced when some one neglected to fill the cooling system during a pit stop, and the engine refused to run air-cooled. The record run was called off, a spare engine was installed, and the entire seven day record attempt began anew. Thus, while it is correct to declare that two engines were used in the car, it is far from the truth to infer that two engines were used in the seven day record run.

Secondly, I am of the opinion that the Le Mans duPont shown in the Correspondence column is a 1929 model. The Le Mans car was put out of the race by (and I give the French from 'Les 24 Heures du Mans' by Roger Labric, as my French is non-existant.) " . . . le defoncement du plancher de la voiture par le "lest, mal assujetti, et donc la chute brutale faussa L'arbre "de transmission." At this time the duPont was eighth, having completed 20 laps.

The pictures show that the car was quite similar to Mr. Barker's except that it had a left front door, and there was a tail,

Labric does not mention any other duPont at Le Mans, so I suspect the accidents mentioned may have happened in other races in which the car took part.

Indianapolis, Ind. P. Kerr

BENTLEY-CASTLE-PALACE BONER

Your 'background for Bentley' is a boner (June issue) . . . you're looking at Hampton Court Palace, not Windsor Castle. Why not take a trip this fall and see the difference?

Toronto, Canada Derek Fuller

A good idea—as your guest I would be delighted!—Ed.

NASH IN MEXICAN ROAD RACE

Your article on the Mexican road race failed to mention the Nash, which in my opinion, was outstanding in this event.

The Nash started 8th on the last leg which was so rough that the cars started not at one minute intervals but at four minute intervals and yet, before 150 miles had been covered, Curtis Turner, in Nash No. 49, passed the lead car at that time which was one of the Alfa Romeos. With no brakes left and with the clutch inoperative due to a broken fly-wheel bolt which jammed the mechanism, Turner suffered a blowout but managed to get going and won the last leg to place 3rd in the race.

He was disqualified because he changed from relief driver on Bill France's Nash to driving No. 49 Nash, which was against the rules. Nash publicity states as follows: "The Nash easily would have won the race had it not had the blowout about 8 miles from the finish line. At that time, the Nash had passed the Cadillac and the Oldsmobile and was 4 minutes in the lead of all cars in the race for the entire distance, having picked up 32 minutes on the field in 150 miles." "The Nash Ambassador No. 37, driven by Bill France of Daytona Beach, Florida, according to the Official Log Book, set an all-time stock car road speed record.*[1] This car was driven 712 miles in the unbelievable fast time of 7 hours, 28 minutes and 2 seconds—for the amazing average of 95.328 mph."*[2]

The displacement of the Nash is very small,*[3] being approximately 245 cubic inches. Despite this fact, France and Turner early in the race were in third place and were only put out due to tire deficiency—14 new factory recommended tires in less than 2,000 miles. France told me that he didn't think that the Nash was fast enough to stand up under this long grind so they set out at a wide open pace and figured if the engine was going to blow it might just as well blow the first day as on the fourth or fifth. Instead of blowing, however, there wasn't a car in the race that could stay with the Nash on those rugged left and righthand turns, and there is no doubt that handling was a major factor.

Bill Tuthill, Secretary N.A.S.C.A.R.
Daytona Beach, Fla.

*[1] *What record, and by whose rules?*

*[2] *Very amazing in face of proving ground figures of 87.7 mph for the Ambassador. But, averages for many other cars were similarly high—compression tests at the end of the race were high too.*

*[3] *Small? The Alfas were only 152.5 cu.in.! The Turner Nash made a very impressive and commendable run but what happened to the 11 other Nashes?—Ed.*

CHROMED SUPER DOODLE-BUG

. . . . with reference to Fred Stammer's substitute for an M.G. who is trying to kid whom? (R & T, July '50, pp. 22-23)

I quote: " . . . . when Fred Stammer . . . . couldn't afford an M.G. . . . ." Stammer ought to have been able to pretty nearly buy 2 M.G.'s for what he paid for that highly chromed super doodlebug! Honestly, now . . . how much DID it cost?

Bettsville, Md. David Kelsey

Stammer's car cost about $2300 to build but his own labor is not included.—Ed.

STOKERS AND BROKERS MAGAZINE

Altho I enjoy each issue of *Road and Track*, sometimes I feel as if it were written primarily for other guys—the Strokers and the Brokers. We who are by necessity family-business-pleasure (one word-one car) owners can't help but feel somewhat crowded out of this sport motoring picture. I, for one, haven't the room, time, skill, or cash for extensive car-doctoring or sport car ownership, but still have that old yearning for something different than the yearly offerings of the Detroit Directorate.

Here's the "problem": One 1950 Ford sedan, V-8 and no overdrive. All-round city and suburban use. Mostly short hops —stop, go, turn, etc. Want extra performance at low speeds in all gears, with absolutely no sacrifice of stock hi-speed and reliability traits. Will use common "hi-test" pump gas, and will service and tune car no oftener than normal for stock models. Must rely on common garage labor (mostly unreliable) for installation and maintenance. Will not consider complicated alterations—cam and gear peddlers need not apply. Have $150.00 tops to spend for complete job-installed, but will listen to further suggestions. My own thoughts included twin exhaust systems and 8:0 to 1 heads. With 8:0 to 1 heads, what plugs are used for my kind of driving? What else should I know? Where and for how much can I get this material? Any other suggestions? Details? I'll welcome all bona-fide information, even from manufacturers and dealers. Remember, I'm in the market, but do react violently to high pressure salesmanship and misinformation.

And in the meantime, with a gleam and a dream, I'll watch the XK's and Alfa-Farinas roll by.

Harold G. Fenstermacher
Flourtown, Penna.

Attention Speed Equipment manufacturers and dealers—warm up your public relations department and give Harold service.—Ed

LUIGI CHINETTI AND LORD SELSDON

In the issue of *Road and Track* for June, page 32, appears a photograph of Briggs Cunningham and Lord Selsdon, to which the caption, while not entirely erroneous, is slightly misleading. I am not sure about Lord Selsdon's performance at Spa in 1949, but I do know his Ferrari won the Le Mans 24 Hour Race that year, and that, while not in any way discounting the achievements of Lord Selsdon, full credit would go to Luigi Chinetti, who drove more than two thirds of the distance. Furthermore, it might be noted that in the 12 Heures de Paris in September 1948, Chinetti drove the Ferrari to victory without any relief whatever. The Montlhery circuit is, as you know, an extremely demanding one, and merely driving the full twelve hours alone, to say nothing of winning, represents a considerable achievement.

Chinetti has long been noted in Europe for his remarkable stamina and intelligent race tactics.

Detroit, Michigan J. K. Sinclair

Our caption was in error—Selsdon and Chinetti won at the 1949 Le Mans 24 hour Race, not the 24 hour Spa Race. Officially, Lord Selsdon was "co-winner" with Luigi Chinetti—no slight of that great driver was intended.—Ed.

CORRESPONDENCE
(Continued)

SANTA ANA ROAD RACE

At the Santa Ana Road Race, successful tho it was, nothing was really done to make the event a sporting one for the spectators. They were not allowed to view the cars before the race (this is comparable to seeing an opera on silent film, then going home and playing the music on record), and they were all marshaled to stay in front of the longest straightaway. Imagine emphasizing the straight on a beautifully crooked course! And since when is a road race run from a flying start (except the tiny Formula III)? And must the chief steward have his name painted all over the sides of his Cadillac, proclaiming his authority? Also, who had the prerogative to cut the "unlimited" class race from ten laps (in the program) to only two? Four miles is a pretty poor race even for bicycling.

Pasadena, Calif. Kelly Buchanan

STUTZ AT LE MANS

I was interested in my friend Alec Ulmann's article about the American entries at Le Mans. But, just for the record, Stutz did not finish fourth in 1929 at Le Mans. This position was filled by a 4½ litre Bentley driven by F. C. Clement and J. Chassagne. Stutz was fifth, and Chryslers sixth and seventh. Dr. Benjafield's book "Bentley at Le Mans" will verify this order.

In 1930, two Stutz entered at Le Mans, having special heads carrying twin camshafts and four inclined valves per cylinder. One, driven by Brisson and Rigal, broke its exhaust by going off the road several times, which eventually resulted in the car catching fire, and that was that. The other Stutz failed to finish, also.

Haverford, Penna. William C. Park

33 IDENTICAL CARS AT INDY OK?

Mr. Schroeder will no doubt be surprised to know that there are tens of thousands of us here in the mid-west who would plank down our hard earned cash to see the drivers drive at Indianapolis if the cars were all powered by the same engines, were all painted the same color, and all carried the same number!

Tuscola, Illinois Myron E. Fullerton

Why not eliminate the cars and have a foot race? Real motor sport involves a test of automotive design, construction, and preparation as well as the driver's skill.—Ed.

"Indianapolis Analysis" by Gordon Schroeder was considerably modified during the process of editing. The author has since disclaimed many of the statements appearing therein but the Editor reaffirms his concurrence.

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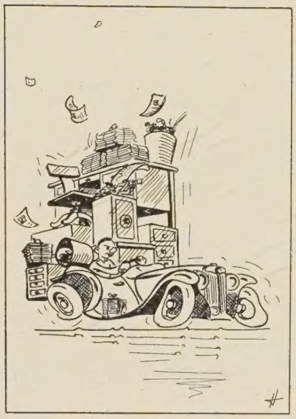
ROAD and TRACK
The Motor Enthusiasts' Magazine

NEW ADDRESS



Operations were progressing just too smoothly at Road and Track so we decided to move. What a mess! A Renault, an M.G., an Austin, a Ford and a much battered Dodge truck made the exodus. There has been no time to straighten up our stuff so we are still in a tizzy—but, we enjoy it.

Our new office is snuggled right up to our printer—a very efficient arrangement. We hope to offer you better service and a better magazine as a result of the move.

Road and Track's new address is: 540 West Colorado Boulevard, Glendale 4, California. The new telephone number is CHapman 5-2297.

In order that all of our efforts can be concentrated on the production of Road and Track, all other activities have been discontinued. Automotive books and foreign magazines formerly available from Enthusiasts' Publications are now handled by Autobooks, Box 409, North Hollywood, California.

PROVING GROUND RACE

The opening of the Studebaker Proving Grounds speedway to the S.C.C.A. for sports car races on June 17th may well be a major milestone in the return of road racing to America.

If General Motors, Packard, and others are as interested in public relations, prestige, and automotive advancement as they claim, they should announce their willingness to co-operate. It seems that one day's use of each of the proving grounds for racing each year is asking very little when the gain is considered.

Let them learn how, by observation and participation, to develop better cars, not fancier holes-in-the-bonnet.

NOVI AT WATKINS GLEN?

Even the most casual perusal of the results at the Le Mans 24-hours Race causes one to wonder about the future of "sporting" events. From the moment of posting the entries there could have been little question of who was to be the eventual winner. While within the limits of the strict Le Mans requirements, Rosier's Talbot was still "very like a Grand Prix car."

Now if a sports car is to be defined as a "car which can be used for both competition and everyday transportation," then surely the widened and befendered race car does not qualify (care to go shopping in an Auto-Union?). If the thinly disguised Grand Prix machine does qualify, then we shall have a comic opera race with M.G.'s, Healeys, and Jaguars as mere clowns.

With sports car racing coming of age in the U.S., it may be well for us to take stock—shall we call for a practical formulæ, or shall we just sit back and wait for the Novi Specials to show up at Watkins Glen with cycle fenders?

September, 1950 Vol. 2, No. 2

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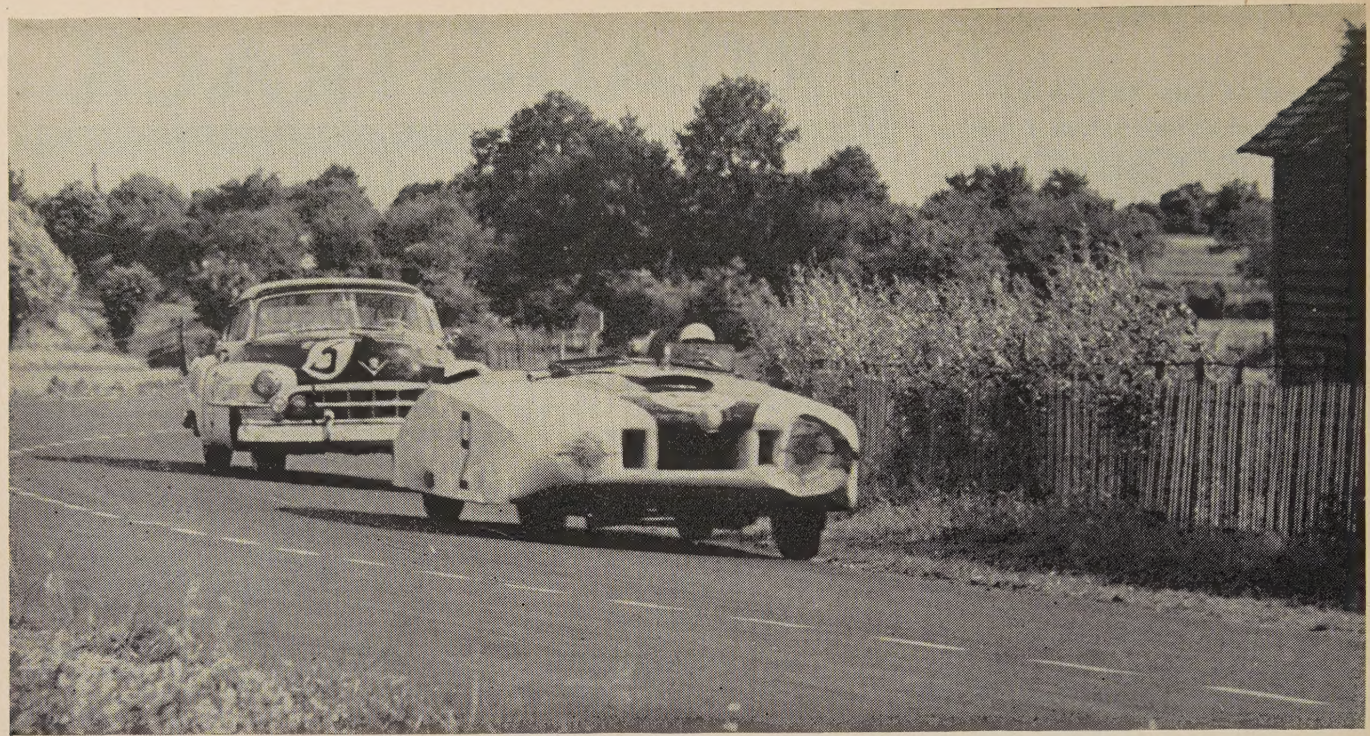


The aerodynamic Cadillac "Le Monstre" leads the sedan thru a corner. Both of these cars are equipped with five dual-venturi carburetors.

The Stars and Stripes at LeMans

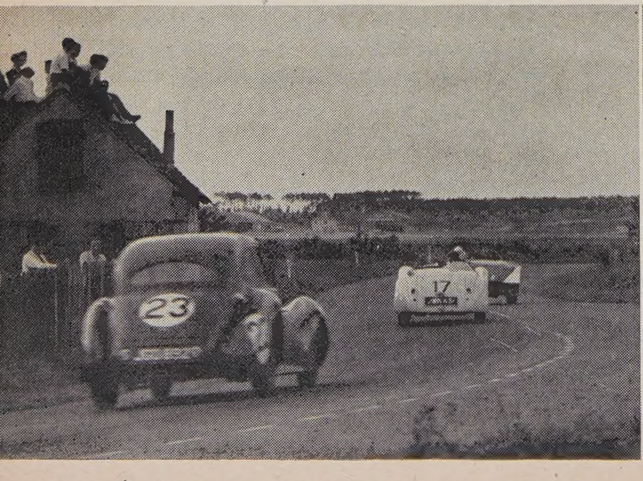
—PHOTOGRAPHY BY LOUIS KLEMANTASKI

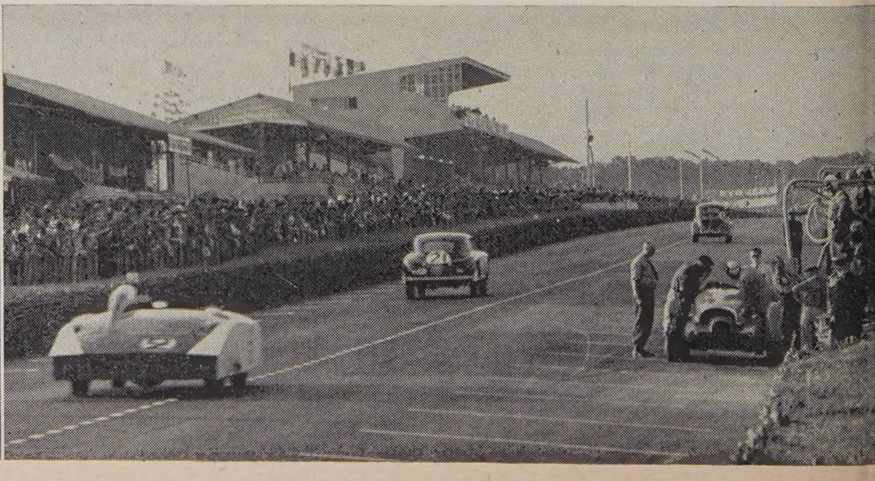
Above—Miles Collier in Briggs Cunningham's Cadillac sedan holds the inside of the curve at Indianapolis corner. Below—The aerodynamic Cadillac leads Leslie Johnson's Jaguar XK-120 and the Mann-Goodell Healey sedan.

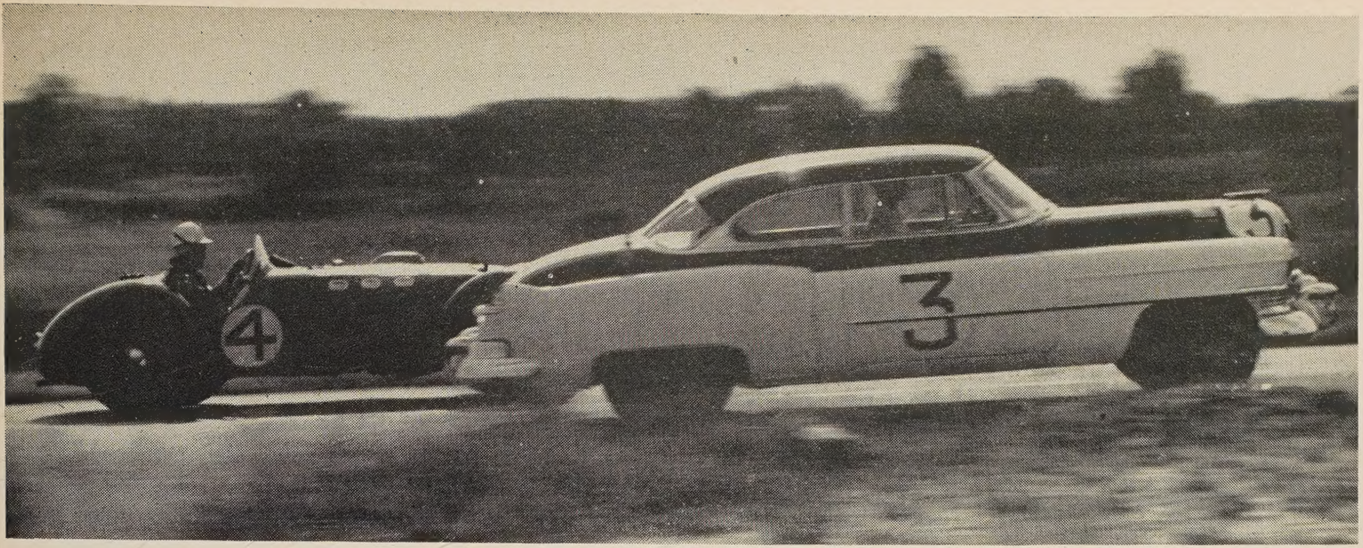
Below—Pit area extends to the right like a giant super-super service station. Across the road are the permanent grandstands. A Renault waits as the Aston Martin and the Cadillac speed by the rear-engined M.A.P.-Diesel.

Americans, for the first time in twenty-one years, placed at Le Mans—Briggs Cunningham's Cadillacs finishing in tenth and eleventh positions. It had been fifteen years since an American car had even entered tho Miles Collier drove his PB M.G. for forty laps in 1939 and was listed as a British entry. Altho tenth place was the highest for complete American cars, it is interesting to note that engines from the U.S. powered the third (Allard-Cadillac) and the fourth (Healey-Nash) place cars. The Cadillac-Allard combination, driven by Tom Cole, Jr. and Sidney Allard, was similar to Cole's winning Bridgehampton J-2, while the Silverstone Healey had been streamlined and used the Nash 3.8 litre "Ambassador" engine.

In all, the field of sixty entries contained the variety that one might find in a large parking lot—a $4\frac{3}{4}$ litre M.A.P. blown two-stroke Diesel, three $4\frac{1}{2}$ litre Talbots (Rosier's being a G.P. model with sports equipment), one Allard, two Delahayes, two Bentleys, the Nash-Healey, three XK Jaguars, a Delage, three Aston Martins, a Riley roadster, a Healey sedan, six Ferraris, two Frazer-Nashs, two blown and two un-







Cole in the J-2 passes Sam Collier in the Cadillac between White House and the pit area.

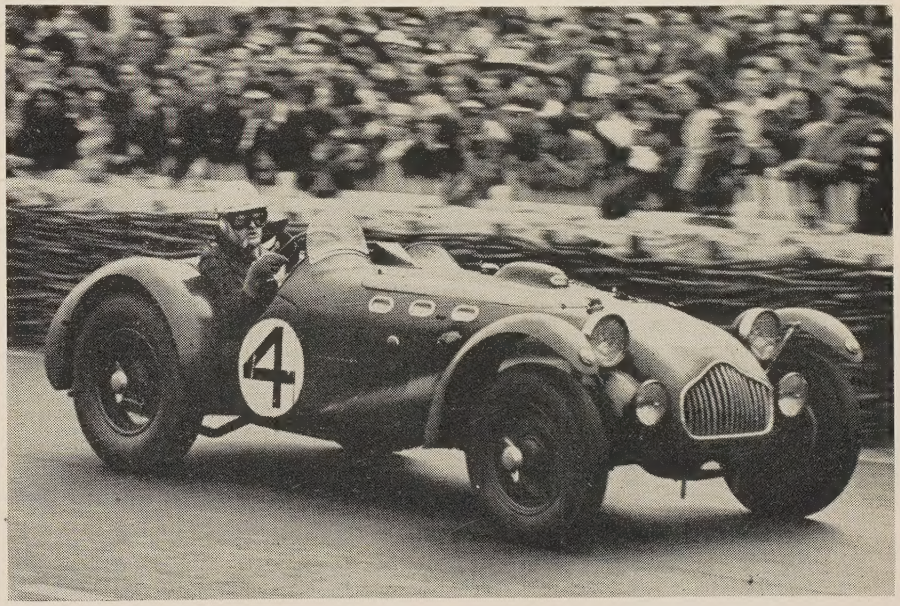
blown 1500 cc Simcas, a Jowett Jupiter, a Fiat 1500, an M.G. and a swarm of little Simcas, Renaults, Dyna Panhards, and other "mighty mites".

The start was in the traditional Le Mans style with the cars backed up to their pit counters and the drivers standing across the roadway. As the flag fell, the drivers ran to their cars, leaped in, slammed doors and roared off. Cole was first off in the Allard with a 100 yard lead over the Cadillac.

After five minutes the pack reappeared with Sommer leading in a 2.3 litre Ferrari coupe, having passed at least a dozen cars in the first lap scramble. Following closely were the Allard, Meyrat's Talbot, Whitehead's Jaguar, a blown Simca, two more Jaguars, the aerodynamic Cadillac, the Nash-Healey, and Rosier in the Talbot.

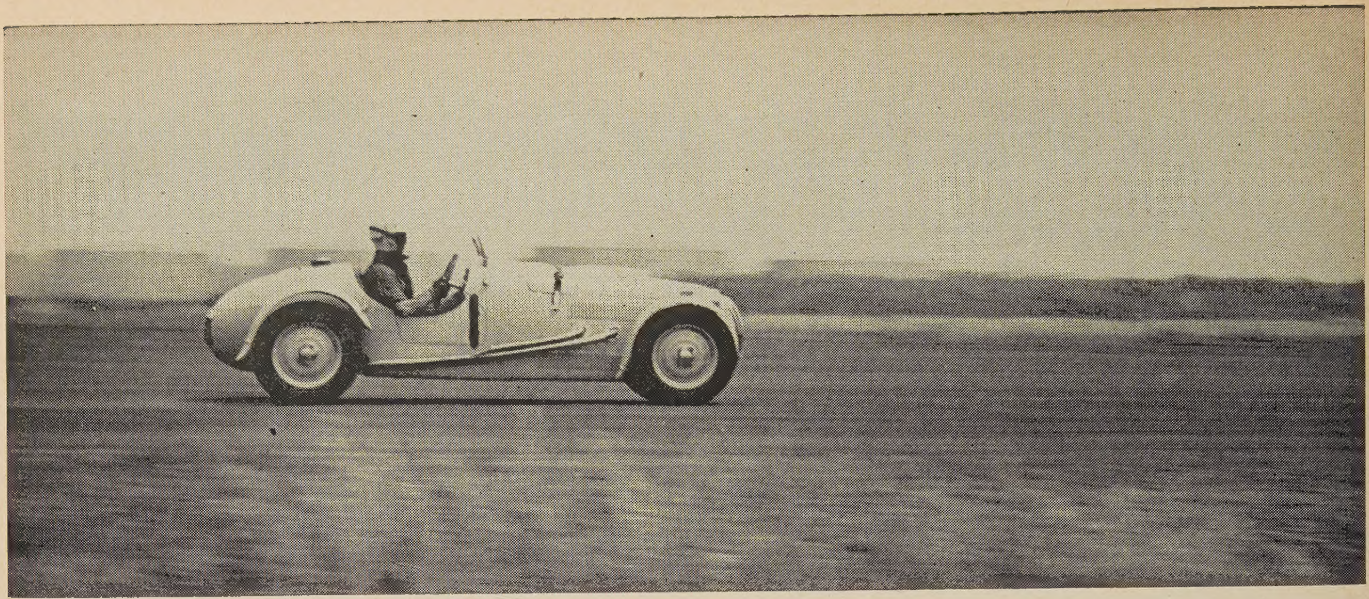
On the second lap Sommer had increased his lead on Cole to 100 yards with somewhat more than that between Cole and Meyrat. Cunningham, meanwhile, had slid the open Cadillac into the sand bank at Mulsanne, collecting the damage seen in the photographs. After nearly fifteen minutes of frantic digging he was off again to leave the sand bank for Madame Ravault's Simca. Meanwhile, cars were starting to come into the pits with one ailment or another. The big rear-engined M.A.P.—Diesel, as well as many others, made short pit stops in the first three laps. Rosier was putting on speed

(Continued on page 29)



Above, Tom Cole at speed in the Cadillac-engined Allard he shared with Sidney Allard. Note knock-off wire wheels, ventiports, covered carburetors, and big rear tires.

Below—Pre-dawn activity in the Cadillac pit. Alec Ulmann, team manager for the Cunningham Cadillacs, stands on the pit counter. Meeting a sand bank damaged left front fender.



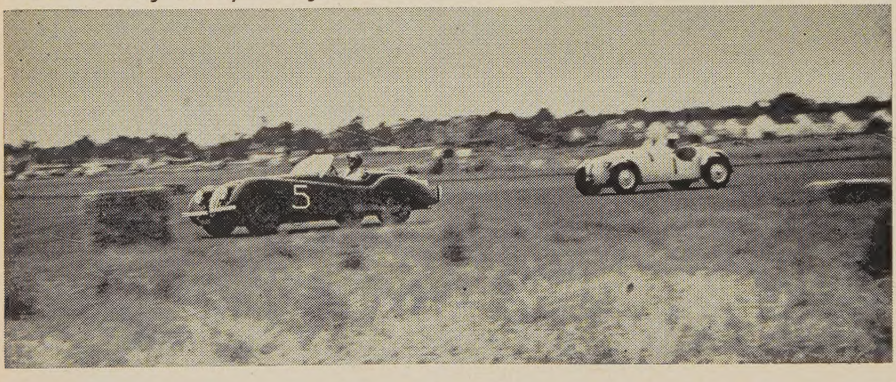
Larry Kulok in his winning Le Mans type Frazer-Nash.

PHOTOS BY HAL SPEER

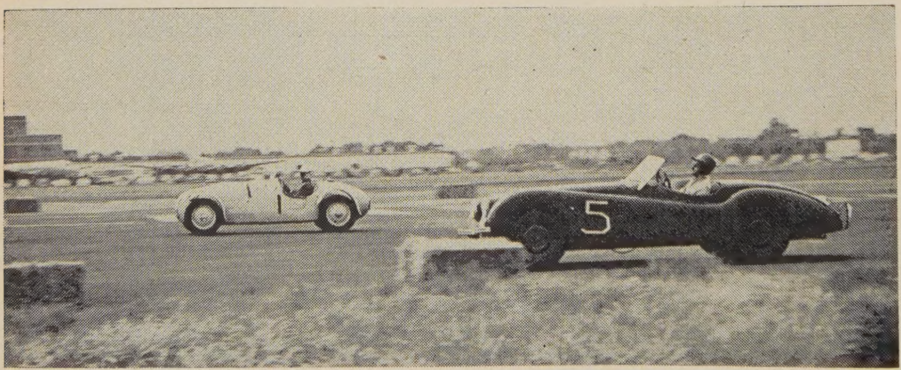
SECOND HEART TROPHY RACE

by John Franklin Fellows

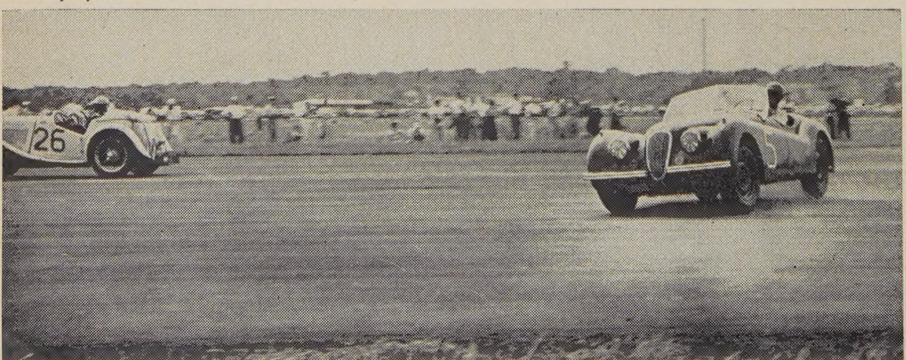
Kulok overtaking Bentley in Jaguar XK-120.



Kulok passes Bentley. . . .



Bentley spins out as No. 26 sneaks by.



The Le Mans type, two-litre Frazer-Nash, which did so well at Bridgehampton in June, did even better at the Linden, N.J., Sports Car Races in July. In fact, this extremely flexible and reliable little sports car won the feature Heart Trophy Race, the Production Car Race (for cars of which 25 or more have been built and sold to private owners), and the heat for its own two-litre class.

Larry Kulok, the car's owner, drove a clean, sportsman's kind of race in all three events; and the 7,000 to 8,000 spectators at the meet, which was sponsored by the New York and New Jersey Heart Associations, the Sports Car Club of America, the Motor Sports Club, the M. G. Car Club and the Westchester Sports Car Club, made Kulok their favorite as the events progressed.

The course, with four corners and two hair-pin turns, was 2.2 miles in length and offered appalling washboards on the runways. Nevertheless, Kulok drove the 30-lap feature Heart Trophy race in 46 minutes, 39.5 seconds, averaging more than 85 mph. The rough going, no doubt, accounted for the fact that Bruce Stevenson, leading the Trophy race at the 23rd lap with a Cadillac-engined Meyer special, had to retire with a collapsed wheel; and that Irving Goldschmidt's Cadillac-engined Allard broke a sway bar and the water connection between engine and radiator, and finally had to retire at the 27th lap with its over-heated engine literally on fire.

John Bentley, driving a Jaguar XK-120 in the preceding Production Car Race, also found the rough terrain a handicap. He spun out three times, had to make a pit stop because of a loosened gear shift, collided with Eric Siday's Healey, and only by the most tenacious and skillful driving managed to place second.

From a spectator's viewpoint, the small car race, first event of the day, certainly was more than ordinarily exciting. Fighting nose to bumper for the 20-lap event, Mark Richards in an M.G. TC and John Fitch in an M.G. TD put on a spectacular show. Richards won this event in 32 minutes, 26.5 seconds; Fitch was a close second; Robert Bird in an M.G. TC placed third.

In this same event, incidentally, there was a race within a race, a 750 to 1100 cc class. Brett Hanaway won this (Class G) race with a blown Crosley; Dr. Vilardi was second in

Above—Le Mans type start of Production Car race. H.R.G. and M.G. TC were first off. PHOTO BY HAL SPEER

another blown Crosley; while Tony Pompeo, who supplied the superchargers for the Crosleys, had to be content with third place in his own unblown Cisitalia.

Statistics on the races follow:

First Race—20 Laps

Class F 1101 - 1500 cc

Mark Richards	M.G. TC	32:26.5
John Fitch	M.G. TD	
Robert Bird	M.G. TC	

Class G 750 - 1100 cc

Brett Hanaway	Hot Shot S/C	35:48.1
Dr. Vilardi	Hot Shot S/C	
Tony Pompeo	Cisitalia	

Second Race—20 Laps

Class E 1501 - 2000 cc

Larry Kulok	Frazer-Nash	32:40
Phil Styles	H.R.G.	
Fritz Koster	H.R.G.	

Third Race—10 Laps

Class B 3 - 5 litres

Harold Stetson	Ford Spl.	16:34.6
John Fitch	Lagonda-Mercury	

Class C 5 - 8 litres

Bruce Stevenson	Cad-Meyer	15:25.3
Irving Goldschmidt	Cad-Allard	

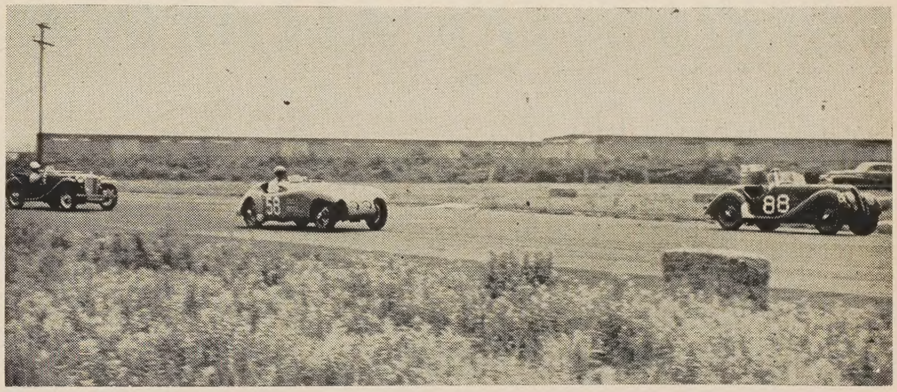
Production Car Race—30 Laps

Larry Kulok	Frazer Nash	48:18.4
John Bentley	XK-120	
Mark Richardson	XK-120	

Heart Trophy Race—30 Laps

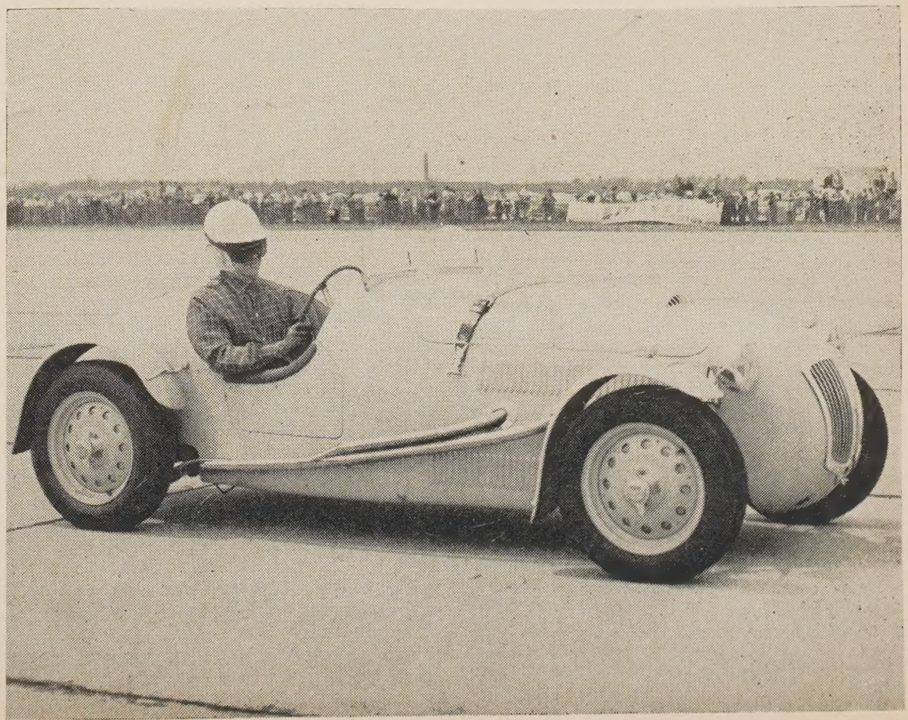
Larry Kulok	Frazer-Nash	46:39.5
Fritz Coster	H.R.G.	
Jim Pauley	Cisitalia	
Mark Richards	M.G. TC	

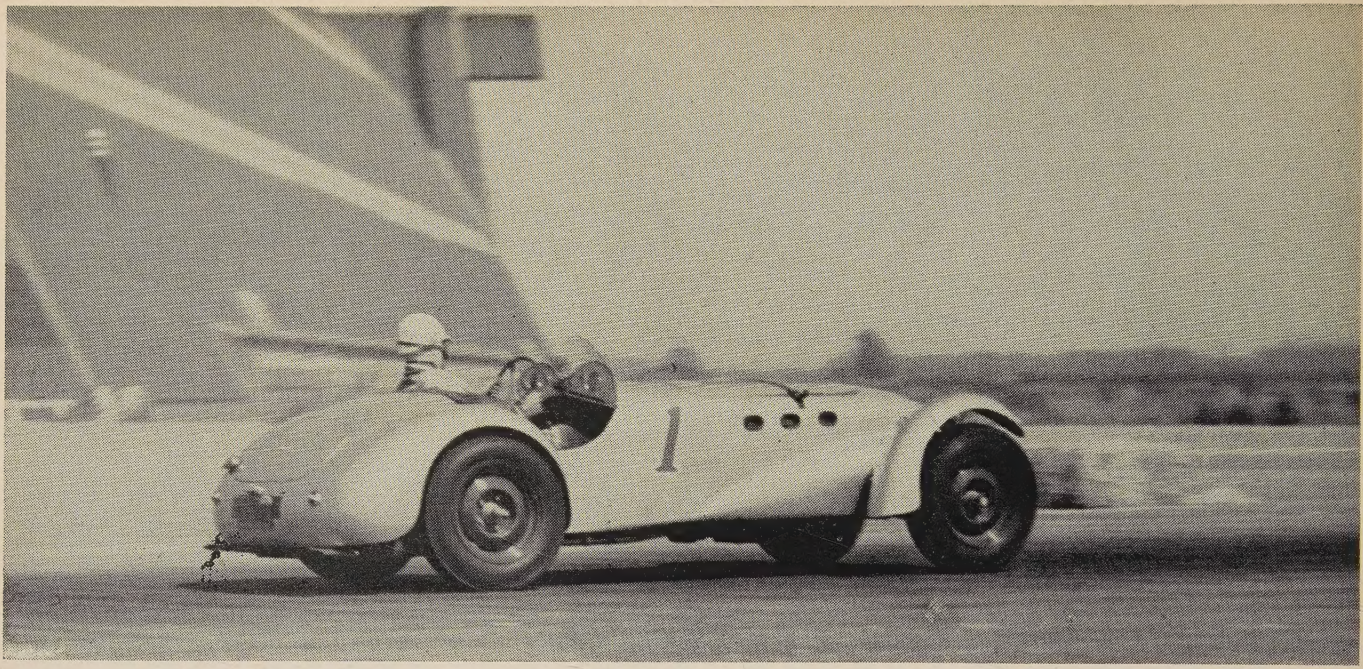
This was the race in which Bruce Stevenson's powerful Meyer Special pulled up lame with a collapsed wheel; and Irving Goldschmidt met with his aforementioned troubles. And so, for once at least, small sports cars—the Frazer-Nash, the H.R.G., the Cisitalia and the M.G.—had a field day. The Frazer-Nash, to cap the climax, was the only car which completed eighty laps on this hot July 9th day—this with no loss of oil and no appreciable wear on tires. Having exhibited the speed, endurance and flexibility of a true sports car in grueling competition, it returned home running cooly thru heavy New Jersey and New York traffic.



Above—A BMW leads an H.R.G. Aerodynamic and an M.G. out of the turn to the main straight. PHOTO BY HAL SPEER

Below—Larry Kulok in his Frazer-Nash after scoring a triple win. Inspiration for this model was the B.M.W. —PHOTO BY PETER MORRIS





Roy Richter driving his Allard J.2 in Santa Ana Road Race.

—PHOTO BY J. CAMPBELL

DRIVING THE ALLARD J.2.

ROY RICHTER TELLS OF HIS WIN AT SANTA ANA IN J.2.

by Roy Richter

Driving in the Santa Ana Road Race was quite an enjoyable experience for me, since my last competition driving was in 1939 when Swede Lindskog, E. A. "Roscoe" Turner and myself went to Auckland and Welling, New Zealand, to race midgets.

Having never driven a powerful car in competition, I was frankly apprehensive of the personal danger and equipment hazards that go with most varieties of automobile racing. However, upon studying the course and layout for the event, I was quite pleased with the obvious thought and time that had been put into making the course as safe as possible for competitors and spectators alike.

Altho not as fast a course as is sometimes used for road racing, the circuit was quite interesting and called for a machine with good handling characteristics, as well as good acceleration and top speed.

Our major mistake of the day was in not having proper tires for the asphalt course. We were using normal road type tires as compared to asphalt-type slick racing tires on the car of our closest competitor. This tire deficiency and Phil Hill's very aggressive handling of his Jaguar made it necessary for me to use all of my advantage of superior acceleration and top speed. I was always aware of Hill in my rear view mirror and didn't at any time feel that I had the race cinched.

My Allard performed perfectly thruout the entire race, never giving any trouble of any kind. The engine was winding as high and smooth at the end of the race as it was at the start. It was turning approximately 5,500 rpm in second at 80 mph down the home stretch between turns and 4,000 rmp at 95 mph in high gear down the longest straightaway.

(Continued on page 18)

TOM COLE DRIVES TO VICTORY AT BRIDGEHAMPTON

by John Franklin Fellows

The morning after the Bridgehampton Road Races, I was fortunate enough to run into Tom Cole, feature event winner, as we were idling thru Henry A. Clark, Junior's, fascinating Southhampton Automotive Museum.

Cole is a genial, almost cherubic, young man, plump and deceptively easy-going in manner. He in no way resembles the goggled speed demon who "whopped" his J-2 Allard up to 130 mph on the wash-board straightaways of the Bridgehampton course. Cole, now living in New York City, is an Englishman, and works for his father, who operates a shipping line. That was all he wanted to say about himself—except that he was leaving next day to enter two or three races in Europe.

About his Allard—and Allards in general—Cole was more effusive. His is one of the first pair built by Sidney Allard; and future models will have more refinements, including a full-width, fold-down windscreen, a snap-on top, and light steel strips under the aluminums fenders to protect them from stone bruises.

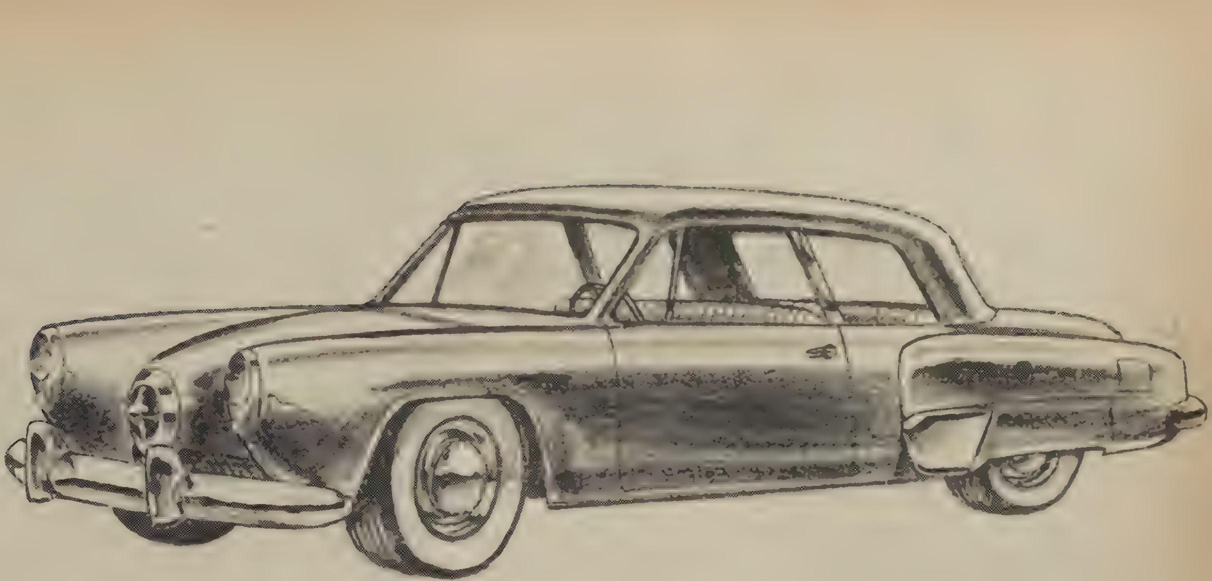
Cole reports that the Cadillac—engined Allard, on a 3.1 to 1 gear ratio, will accelerate from zero to 60 mph in 7 seconds. This compares with zero to 60 mph in about 14 seconds for the Oldsmobile 88, probably the fastest starter of American stock cars.

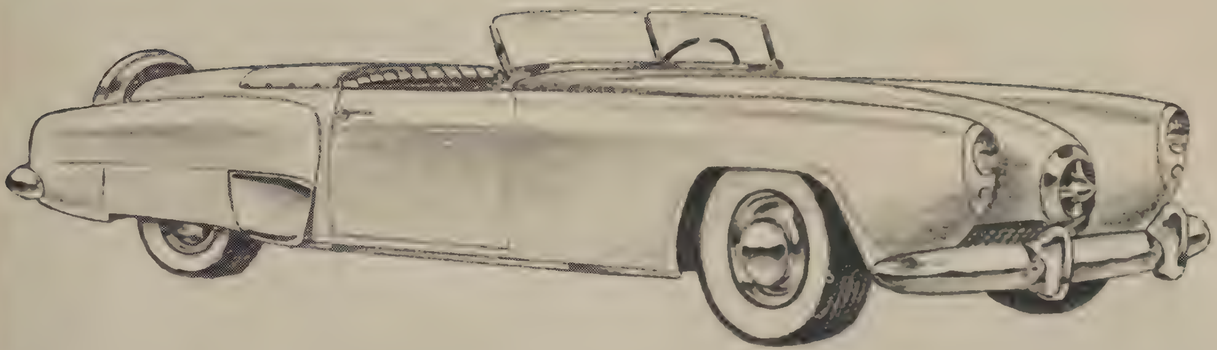
One reason for this 2 to 1 difference in pick-up is that the Cadillac-Allard easily will run up to 60 mph in low gear; to 100 mph in second gear and to well over 130 mph in 3rd gear. While Cole has never been pressed, and has run the car only over secondary roads at a top speed of about 130 mph, he believes it capable of hitting 140 mph on a smooth highway where there would be less wheel slip and where a 5% expansion in tire size also would help. With its eight cylinders and short (for bore) piston stroke, the car also proves tractable in city traffic.

Cole says that the car rode nearly as well as a Cadillac sedan. Other good points are a clean aluminum instrument panel and Bluemel Brooklands steering wheel. Light and roomy, the car rides better, handles better and accelerates better than any car Cole has driven, including Maseratis, Alfas, Ferraris and an E.R.A. monoposto.

Acceleration proved terrific, what with the light aluminum body and tubular chassis; the De Dion rear end, which hugged the road; the Lincoln Zephyr, three-speed gear box; and, of course, the engine. This Cadillac engine, believe it or not, did *not* have a special camshaft or heads. It was standard except for a Detroit Racing Equipment dual manifold which was installed with two Carter carburetors by Frank Burrell of Cadillac.

Tom states the engine will rev up to about 5,000 rpm and that this relatively inexpensive machine should do about 140 mph. It didn't have to at Bridgehampton because it was never challenged. (At the end of the ten-lap, 40 mile race, I put my hand on various parts of the car. Even the brakes were cool, in fact, cooler than the tires!) He advises the enthusiast who isn't "loaded" to look into this Kettering-type Cadillac power plant before spending a fortune hotting up less favorable units. And, in his opinion, there is no better chassis, for any price, than that of the J-2 Allard. Since the Bridgehampton race, six Cadillac-Allards have been ordered in New York alone. The engines will be installed by Perry and Joe Fina of New York, who have had much success in hotting up cars for Jack Topping, Mortimer Hall, Tony Pompeo and among others, your correspondent.





Jenks

SKETCH PAD

by Bill Jenks

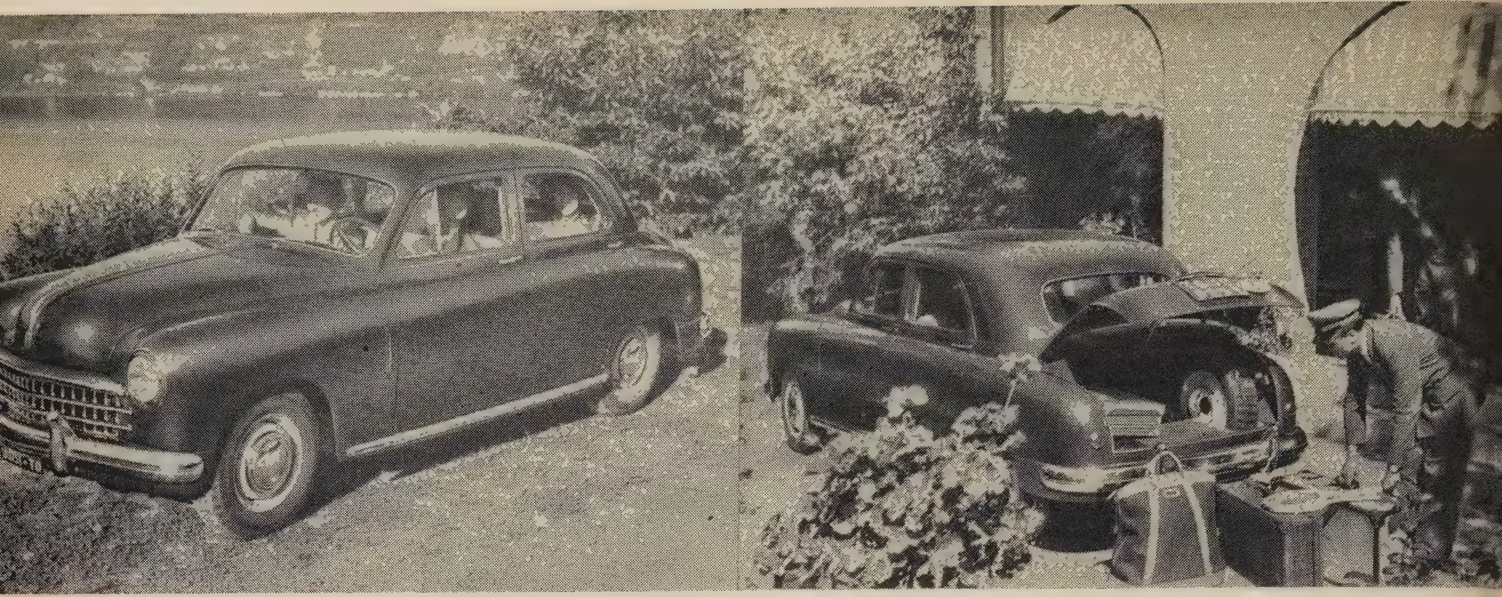
The 1950 Studebaker "Champion" was the reader's choice to receive the "Jenks-treatment." The result is quite pleasing because of the basic straight-line design of the "Stew-dee."

In both cases, the lower body line is achieved by removing a 7" section all around rather than channeling. While this may seem a little drastic, it is entirely feasible and there is no loss of head room or visibility. Seats, of course, are lowered to give a seating position similar to the Jaguar XK-120.

The top of the two-door sedan is stock except for replacing the wide side post with a narrow channelled chrome strip. A low fabricated hood is used to bring the center spinner below headlight level which should hide, if not eliminate the over-round front hood line.* Note that these modifications give quite a rakish and foreign flavor to the little "Champion."

For the open air fiends, the "sports" model is shown below. Moving the three passenger seat 26" toward the rear and the engine 12" gives a much better balance and improved cornering ability. An unusual idea is the split windshield with the halves folding independently in "trials" fashion, while conventional roll-top windows are used on the sides for all-weather comfort. The deck lid has been shortened to allow outside spare tire mounting without excessive overhang. The trunk compartment, cleared of the spare, remains near normal. With a few engine modifications, it would seem that this would be an ideal car for those who desire sports car performance and handling without the sacrifice of passenger car comfort and utility.

**Why hide it ? Give the whole "nose" to some Piper Cub owner and make a Cisitalia-type grille and hood for the "Champ."—Ed.*



The Fiat 1400 has the appearance of a scaled-down American car—perhaps Budd, who prepared some of the tooling, had a finger in the styling? Luggage accommodations are generous by European standards.

A Sensational New Car From Italy

The FIAT 1400

By JOHN R. BOND

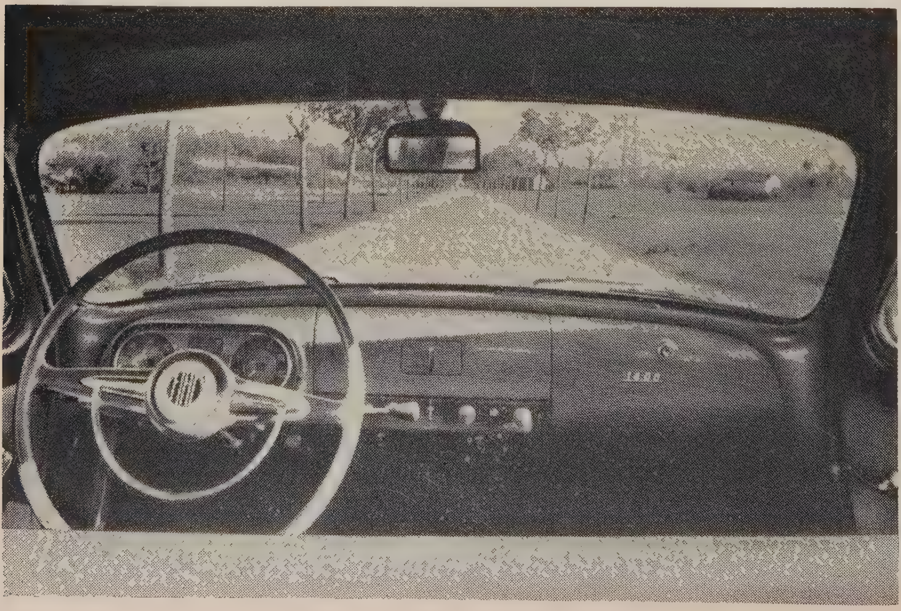
From the firm Fabrica Italiana Automobili Torino, (Fiat) comes the first really new post-war Italian production automobile, the model 1400. To Americans this new model is interesting because of the large number of unusual mechanical features and the fact that the financing for this model was largely provided thru a Marshall Plan loan. In this connection; not only are many new American machine tools in use but also much of the actual tooling was done in this country.

The Fiat 1400 has a wheelbase of 104.31 inches, a curb weight of 2550 pounds, and a four-cylinder, 85 cu. in. engine developing 45 bhp (1395 cc, hence the model 1400). Construction is of the intregal frame and body type.

The standard body is a four door sedan seating 4 adults comfortably and 6 without too much crowding. (minimum seat width 52 inches). Styling is extremely disappointing—being merely a scaled down conventional American of the "jello-mold" school. On the other hand, at the recent Turin Auto Show, the specialist body builders really outdid themselves in carrying out the justly famous Italian flair for cleanliness and simple artistry. These examples were mounted on special chassis which utilizes a conventional frame.

Interesting for its simplicity and sound design, the four-cylinder engine has a bore of 82 mm and a stroke of only 66 mm (approximately 3.22 x 2.60") and so follows the lead of our Oldsmobile and Cadillac V-8 engines in having a stroke-to-bore ratio of less than 1. Since such a ratio gives adequate room for valves, a very rigid crankshaft with an excess of bearing area, and low piston travel per car mile, the durability of the engine is unquestioned. Maximum bhp is 45 at 4400 rpm, and peak torque is 64 ft. lb. at 2700 rpm on a compression ratio of 6.7 to 1. Conventional pushrod overhead valve actuation is employed. Cylinder head, transmission case, and clutch housing are of light-alloy. The original design included use of a light-alloy cylinder block but cast-iron will be used until more "in-use" data can be obtained. Separate, removeable wet cylinder-liners are of alloy steel.

A one-piece curved windshield, column shift, grouped instruments, and closed glove compartment are all American features. Lack of chrome and simplicity are purely European.

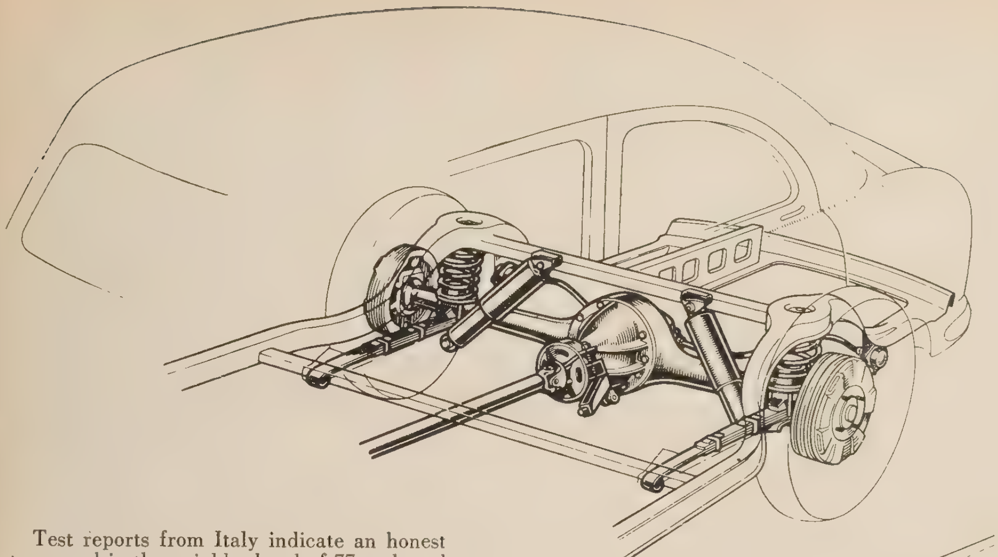


While the clutch is conventional, the 4-speed transmission is unique in that the second speed pair of gears (constant mesh with synchronizer) are overhung behind the main gear case. This gives a very short span between bearings for the rest of the required gears, which incidently are arranged substantially as they have been on several General Motors cars for over 15 years.

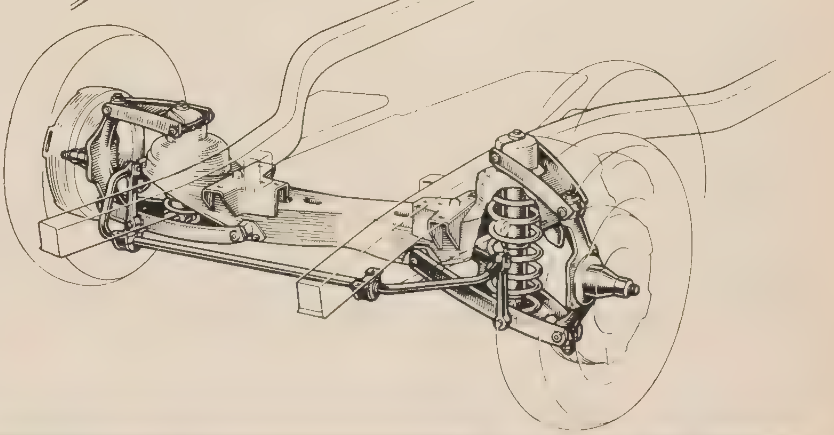
The drive line is in two parts with an amidship bearing, which is nothing new—but it has an unusual combination of rubber-bushed coupling at the rear of the transmission case, plus a very flexible torsion bar which acts as the primary propellor shaft and is enclosed in a tube which rotates but does no driving. This tube carries two plain bearings which support the torsion bar and so eliminates whip of the slender driving member. At speeds as low as 10-12 mph in high gear, it is claimed that this drive line makes it virtually impossible to detect that only four cylinders are under the "bonnet".

The independent front suspension follows what is now conventional practice, employing short upper and long lower wishbone arms with coil springs. The rear suspension is not independent, nor is it completely unique, bearing as it does a close resemblence to the Crosley "Hot Shot" and some similiarity to to the Oldsmobile. The weight of the car is carried by coil springs, and the solid axle is located by a pair of radius rods in the form of the forward half of a semi-elliptic leaf-spring. This arrangement gives limited flexibility to dampen sudden torque loads. Unusual is the dual role required of the torsion bar stabilizer which also acts as a track bar for lateral positioning of the axle with respect to the body and modifies the spring rate.

Fiat Engineers have recognized the brake fade problem and cleverly provided for positive circulation by drawing air thru the backing plates and radially outwards via six internal passages cored thru each drum casting, giving in effect, a shrouded centrifugal-impellor type fan at each wheel.



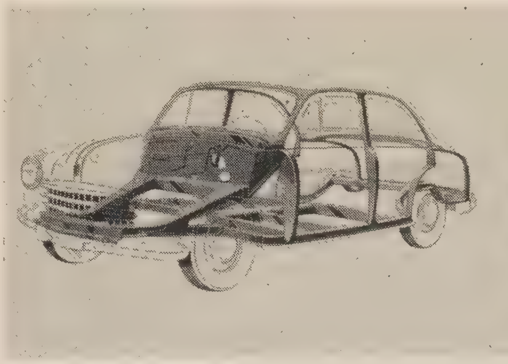
Rear suspension employs coil springs, cantilever leaf-spring radius-torque arms, and torsion bar stabilizer-track arm. Shock absorbers are splayed in American manner.



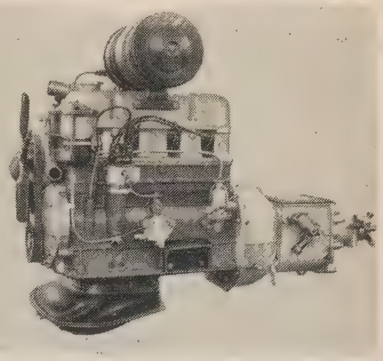
Front suspension is by parallel arms with coil springs surrounding telescopic shocks. The links are inclined forwards. A torsion anti-roll bar connects the "wishbones".

Test reports from Italy indicate an honest top speed in the neighborhood of 77 mph and an acceleration from rest to 60 mph thru the gears in just over 27 seconds. Acceleration on the very high top gear (4.44 to 1) is not impressive with an average of 8 seconds required for each 10 mph increase in speed between 10 and 50 mph. By way of comparison most American cars require less than 20 seconds to accelerate from zero to 60 mph, and less than 5 seconds for each 10 mph increase in speed in high gear. However, the short stroke "1400" engine can rev freely as well as safely—maximum speeds in 3rd and 2nd, for example, being over 61 and 40 respectively at a crankshaft speed of 6000 rpm (corresponding to a piston speed of only 2600 feet per minute). In common with other very short stroke engined cars, the Fiat's top gear cruising speed at the usual 2500 fpm piston velocity is higher than the car will actually do, in this case 92 mph.

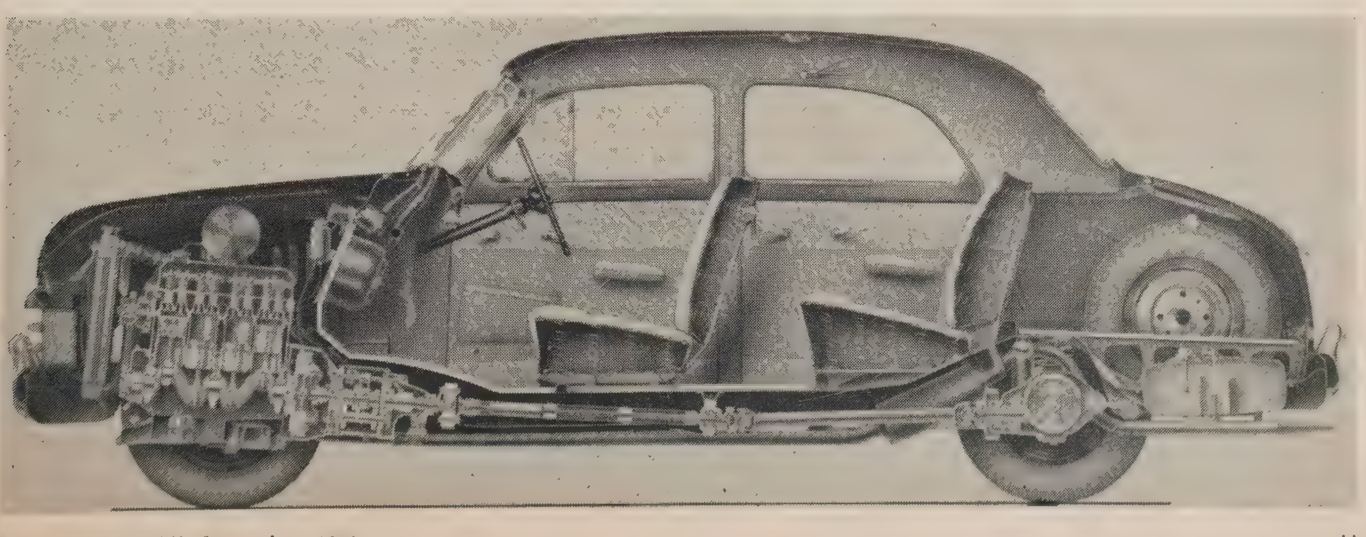
To sports car and class racing enthusiasts, the new 1400 engine may have special significance. The superceded 1100 Fiat engine (1087 cc), with nearly equal bore and stroke, was very popular as power for Class B competition. Outstanding "modifiers" of the 1100 include Gordini in France and Cistalia in Italy, both of whom got over 60 bhp from this little powerplant. On the same basis, the 1400 engine could give over 75 bhp, and would be eligible for Class C competition for unblown engines up to 91 cu. in. Increasing the bore by approximately .092 inches to 3 5/16" should not be too difficult and would bring the displacement up to 89.57 cu. in. (about 1468 cc). The "bored" 1400 engine should then develop over 82 bhp in modified form.

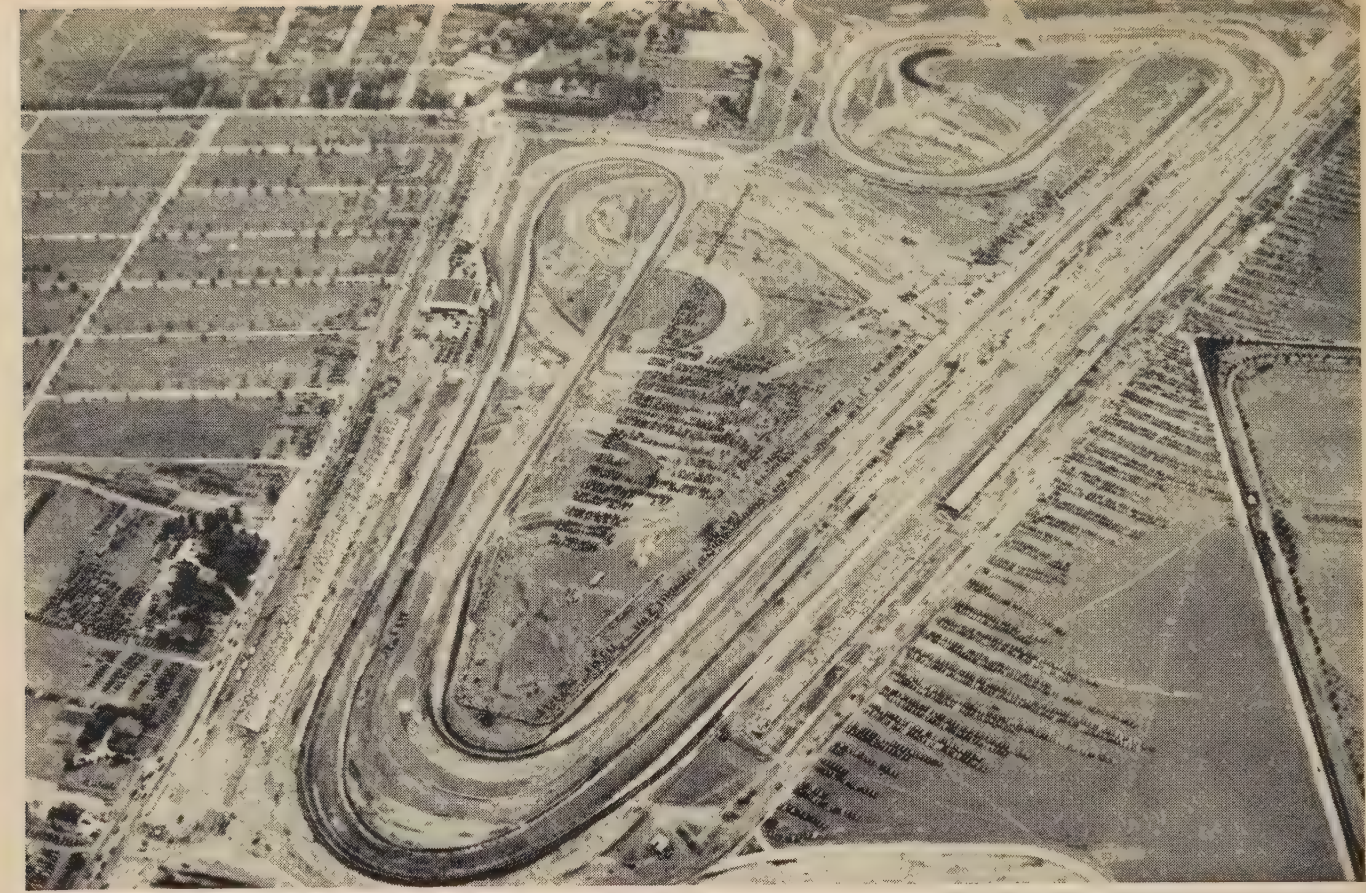


Mono-unit frame and body structure is similar to Nash, Citroen, Opel, Vauxhall and others.



Four-cylinder ohv 1395 cc engine develops 45 hp. Deep oil sump resembles bed pan.





For the 1937 race, Roosevelt Raceway was altered to eliminate most of the turns. A faint outline of the 1936 course is barely visible. —WORLD WIDE PHOTO

THE VANDERBILT CUP RACE

ROOSEVELT RACEWAY—SCENE OF AMERICA'S LAST GRAND PRIX

Ever hear about the Mercedes and Auto Unions on Long Island?

Bernd Rosemeyer, with his hands bleeding and blistered from fighting the slippery course, flashed down the straightaway in his Auto Union at over 160 mph to win the 1937 Vanderbilt Cup Races. Dick Seaman brought his Mercedes in 51 seconds later to take second and Rex Mays, driving a 3.8 litre centrifugally-blown ex-Farina Alfa Romeo, took third—a lap behind Rosemeyer.

This race, and the one run the previous year, were held on Roosevelt Raceway, an artificial road racing course built on a 250-acre tract comprising the eastern portion of the old Roosevelt Aviation Field at Mineola, Long Island. The basic idea was to provide a circuit having sharp turns and long straights similar to those found in Europe, yet to have the entire race within full view of grandstand-seated spectators at all times. A 23-turn paved-pretzel was the result.

Altho a speed of 80-85 mph was predicted for the first race, held June 27, 1936, Tazio Nuvolari averaged only 65.99 mph to win. For the 1937 race, the number of turns was reduced to eight and the winning speed increased to 82.56 mph.

The 1936 race was not taken too seriously by the Europeans, altho a few top drivers and cars did make the trip. The brilliant driving and subsequent victory of Nuvolari was a great delight to the many Italo-Americans who were in attendance. The less numerous Franco-Americans were thrilled by the Gaulic hero, Jean-Pierre Wimille, who took second place in a Bugatti.

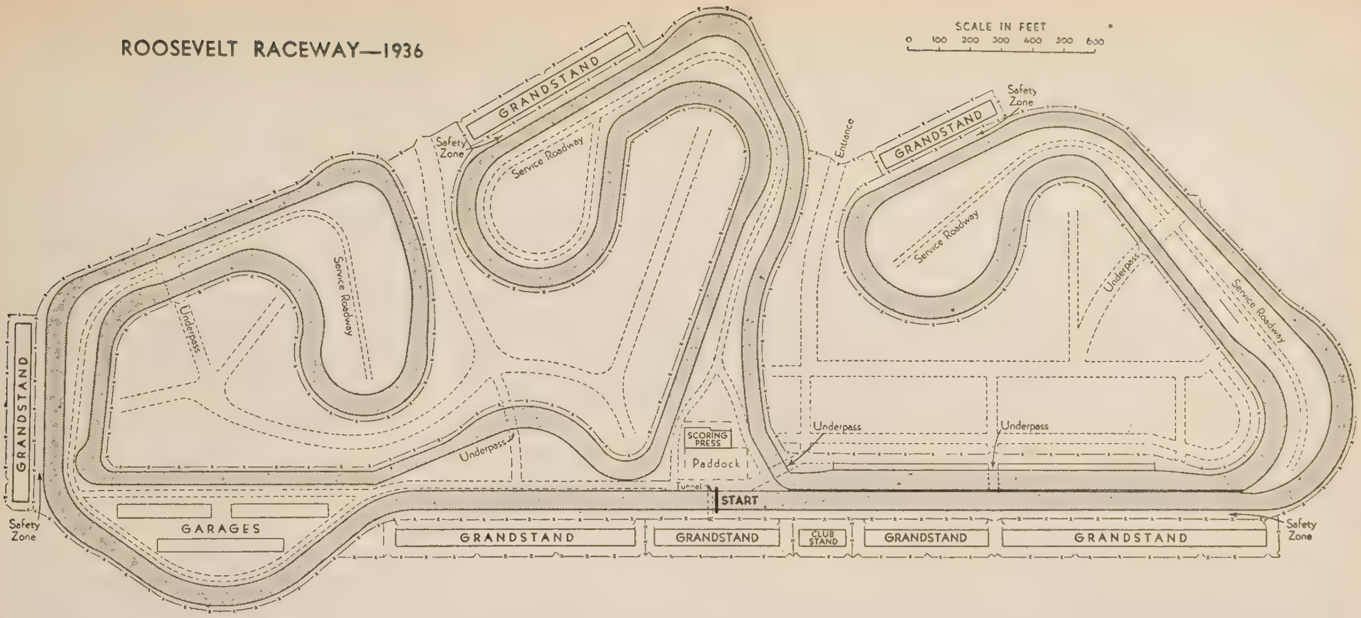
In 1937, the German teams were at the height of their glory, having swept all opposition before them. The prize money offered at Roosevelt ($60,000 to $80,000) looked good and the opportunity to gain both commercial and political prestige in America was too valuable to pass up. Mercedes sent Caracciola and Seaman as drivers. Auto Union selected Rosemeyer and Delius while Nuvolari and Farina represented Ferrari's Alfa Romeo team.

Quoting from **"Motor Racing with Mercedes-Benz"** by George Monkhouse:

> "Caracciola made the fastest time in practice, lapping at 85 miles per hour, and therefor gained the inside position in the front line at the start, together with Rosemeyer and Rex Mays; in the second row were Seaman, Nuvolari, and Farina, and in the third Delius, Billy Winn, and Ted Horn. Behind them were about twenty-five American cars and drivers, who had had little or no experience of genuine road racing, altho a few, including Mauri Rose, "Wild Bill" Cummings, Wilbur Shaw, and Kelly Petillo, were past winners at Indianapolis.
>
> "As women were not allowed in the pits, a special timekeeping box had been put up on the return straight for Frau Caracciola, and it was from here that Neubauer directed the race, leaving the Mercedes pit in charge of Uhlenhaut.
>
> "At 1 o'clock on Saturday, July 3rd, all the cars were lined up on the straight in front of the stands for the start, which was scheduled for 2 o'clock. The weather certainly looked ominous, and half an hour before the start it began to pour with rain and the race was postponed without comment until Monday. This, of course, would have been an unheard of thing in any other country but America, but apparently they invariably postpone or stop a race if it is raining!

—WORLD WIDE PHOTO

Tazio Nuvolari, in a 4-litre Alfa V-12, takes the lead at the 1936 Vanderbilt Cup Race.


ROOSEVELT RACEWAY—1936

"The start and opening laps were most exciting, Rosemeyer cutting straight across Caracciola into the first left-hand bend, followed by Rex Mays, Nuvolari, Seaman, and Farina.

"On the second lap Caracciola was very close to Rosemeyer, and Seaman had passed Nuvolari into fourth place. On the third lap Caracciola passed Rosemeyer and gained a lead of about five seconds, and on the fifth lap the order was Caracciola, Rosemeyer, Mays, Seaman, Nuvolari, Billy Winn, Delius, and Farina. Rosemeyer was going very fast, and on the eleventh lap he regained the lead from Caracciola, otherwise the order remained unchanged except that Farina had passed Billy Winn and Delius into fifth place, Delius being sixth.

"Nuvolari had been making a tremendous effort to repass Dick Seaman, with rather devastating results, for on the sixteenth lap his engine blew up and Tazio retired. Mercedes were the next in trouble as on the twenty-second lap Caracciola retired with a broken supercharger drive, Seaman passing Rex Mays into second place, and Delius and Farina having a fight for fourth place.

"On the thirty-eight lap Rosemeyer stopped at the pits for tyres and fuel, which took 35 seconds. Altho by no means a record, it was fast enough to show up the American pit work, which was pathetic. Rex May's pit stop for tyres and fuel took the tremendously long time of 1 min. 18 sec.

"Rosemeyer's stop let Seaman into the lead, and at forty laps he was 30 seconds in front of Rosemeyer. On this lap, amidst tremendous cheers from the Italian section of the crowd, Nuvolari took over Farina's Alfa-Romeo, which had come in for fuel.

"On the forty-fifth lap Rosemeyer was steadily reducing Seaman's lead and had nearly caught him up when Seaman's engine started spluttering thru lack of fuel, so that on the next lap the Mercedes came into the pits, which let Rosemeyer into the lead with Mays third, Delius fourth, Nuvolari fifth, then the Americans Winn, Horn, Snowberger and Shaw.

"Nuvolari was having the time of his life, for, having succeeded in passing Delius, he started a terrific dust-up with Rex Mays, and finally passed him, only to have to stop for three minutes at the pits on the 50th lap to investigate the damage to his engine. Having broken it good and properly, he gave the car back to Farina to carry on!

"Seaman," the young Briton from Cambridge's cloistered hall," was driving the race of his life and was catching up on Rosemeyer. After Rosemeyer's second pit stop, on the seventy-fourth lap, Seaman was only 9 seconds behind him, but, as his car was the only Mercedes left, he could not afford to give the engine as much "gun" as he might have done had Caracciola still been running. Both Rose-

"On the eightieth lap Rosemeyer had increased his lead to 13 seconds, but on the eighty-nine lap, one to go, Seaman's engine started spluttering again, and he had to come into the pits for sufficient petrol to carry him round the last lap, so that he finished 51 seconds behind Rosemeyer. The final order was:

1st....Rosemeyer (Auto Union)
2nd....Seaman (Mercedes). 51 seconds behind
3rd....Rex Mays (Alfa-Romeo). 1 lap behind
4th....Delius (Auto-Union)
5th....Farina (Alfa-Romeo)
6th....Joel Thorne (Alfa-Romeo)

American cars driven by Russ Snowberger, Wilbur Shaw, Bill Cummings, and Herb Ardinger filled the next four places, a considerable distance behind.

"The American public were genuinely astounded by the performance of the German cars, particularly as both Mercedes and Auto-Union were touching 160 miles per hour along "the straightaway."

The 1936 and '37 races were a revival of a series of road races held between 1904 and 1916. The first six races of this series were held on Long Island while the others were run at Savannah, Milwaukee, Santa Monica, and San Francisco.

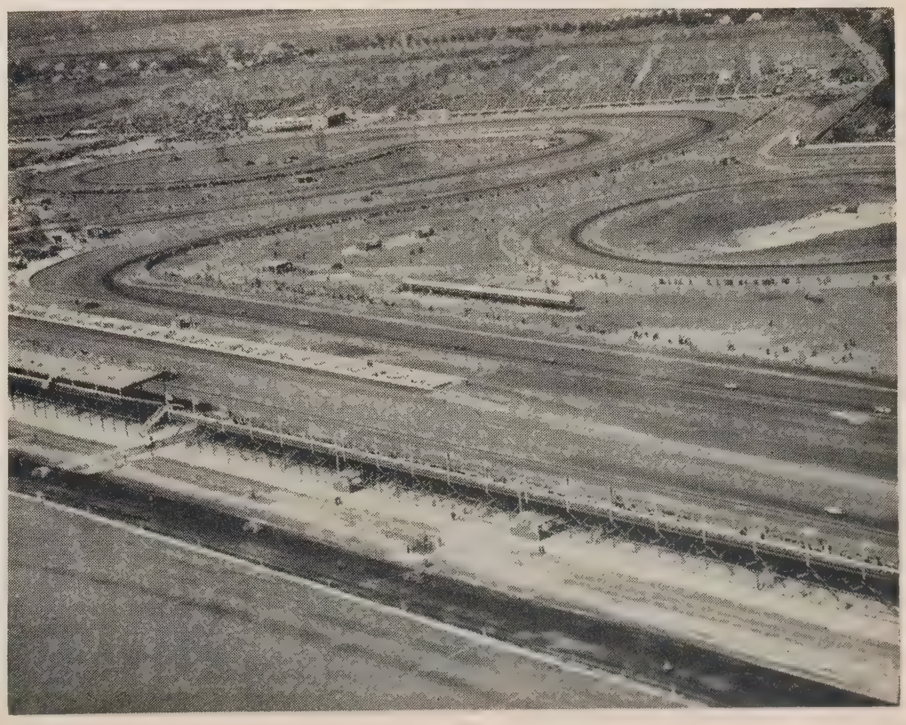
When a group of investors and sportsmen (Wm. H. Vanderbilt, W. A. Harriman, George P. Marshall, Aviation Corp., and others) formed Motor Development Corp. to operate the revival project, they engaged A. C. Pillsbury, noted Pacific Coast speedway engineer and racing authority, to design the new circuit. Pillsbury spent over six months in Europe, visiting and studying road race circuits.

The original 4-mile course, built at a cost of $1,250,000, had 60-foot wide straightaways and 100-foot wide turns. Most of the turns were flat, only two or three of the major corners having any degree of banking. A 20-foot run-off apron bordered both sides of the circuit and spectators were guarded by crash rails at strategic points.

Five huge grandstands, the longest being completely covered, paralleled the straights. Parking area and "standee" provisions were made on the infield. Only 20 miles from New York City, the AAA agreed to withhold additional sanctions within 75 miles of N.Y.C. Yet, at the second race, only 80,000 people were in the half-filled stands.

Why did this revival of Grand Prix fail? National pride—Americans were unhappy when they saw the European teams thoroly defeat our drivers. It was not for lack of driving skill, as Rosemeyer personally congratulated Mays on his daring style. A complete lack of suitable American race cars—transmissions, brakes, suspension, engines, and other components—was the cause of our rout. May we take heed of this unfortunate experience and encourage the development of American sports and race cars *before* road racing reaches its bloom in the U.S.A.

The flags of all nations fly as New Yorkers get a taste of Grand Prix racing during the 1936 Vanderbilt Cup Race. —WORLD WIDE



ANTIQUE AND VETERAN

by W. Everett Miller

Italy is a country less than three-quarters of the area of California with a civilization older than the Mariposa Redwoods. Its citizens share in a rich heritage of art, architecture and engineering triumphs. At home and in conquests abroad they were the world's finest road builders. Their chariots and wagons helped them win supremacy over many people.

In the 19th century, Italians built exquisite coaches and carriages for royalty and noblemen. The extreme north-west city of Turin, nestled at the foot of the Alps, was the home of proud coachbuilders long before the advent of the automobile. Following the lead of England's pioneer steam road locomotives, one Virginio Bordino constructed an elaborate and artfully designed double-landau steam carriage at Turin in 1836.

By 1899, much excitement had been stirred in all countries because of the development of the gasoline automobile in Austria, Germany, England, France, and America. In July of that year, Giovanni Agnelli, two engineers named Marchesi and Fornaca, and others organized in Turin the "Fabrica Italiana Automobili Torino". From the beginning, it was their intention to manufacture automobiles, trucks, trams, railway rolling stock, boats and engines for every use.

These men possessed a broad outlook, for tho their national market was obviously limited they envisioned great possibilities in a world market. Sturdy and fast F.I.A.T. cars were entered in international contests to win countless honors and to gain universal recognition. However, the sporting side of the venture did not dominate the home activities —they were practical men who were in business to serve commerce.

Early Fiats followed somewhat the general pattern established by Mercedes, as did most other makers. Progressively the ingenuity and the fine aesthetic sense of the Italians marked each new design produced. The chain drive "T"-head models were discarded for "L"-head monobloc engines of exceptionally clean design with manifolds cored in the bloc. The new live rear axle with integral torque tube drive was unique and distinctively Fiat. Perhaps the first of the pressed steel housings, it was formed by flanged upper and lower halves in one piece with the torque tube and bolted together around its entire T-shaped outline, making it massive in appearance and light in weight.

While other makers were harassed by complaints from owners who insisted on fiddling with fancy carburetor adjustments, Fiat eliminated the difficuty by mounting the carburetor inside of the crankcase where it could not be reached.

FIAT Land — Sea — Air

Fiat racing cars were often stock models which made an impressive showing, but some of the specials were imposing contenders. Teddy Tetzlaff campaigned in a 70 hp model and Barney Oldfield drove a 120 hp overhead cam Fiat that would delight any modern hot-rodder. There is no automotive thrill equal to handling a well designed big four-cylinder engine. For the Dieppe Circuit Grand Prix of 1912, Fiat entered three 200 hp cars. In a terrific battle with the winning Peugeot, Wagner's blue Fiat finished second, while Bruce-Brown, third, and De Palma were disqualified for refueling at other than appointed places.

The largest Fiat racing car appeared a year earlier and introduced the famous rounded Fiat radiator that was copied by competitors everywhere. The engine was 190mm x 259mm; about 1,927 cubic inches displacement, with horsepower output of 300 at 2000 rpm. However, performance was not commensurate with its enormous size, for at Saltburn, England it clocked only 116 mph. In the twenties, competition at Brooklands included a Fiat familiarly known as "Mephistopheles" and driven by J. F. Duff.

Weighing the activities of all the world's automobile manufacturers, without question Fiat has been most versatile as more variety is seen in the design of the various models produced in 51 years. Many different valve arrangements have been used. Opposed piston engines were developed and all types of aircraft engines have been built since 1908. Interesting marine powerplants, to 40,000 hp, were developed for boats and vessels of all sizes.

One of the numerous divisions of this great company manufactures trucks in the acquired S.P.A. factory in Turin, and at Modena, the O.C.I. tractors and agricultural implements. Small arms, airplanes and ball bearings are made in the home city. Other plants turn out railway rolling stock including coaches and pullman cars, Diesel locomotives, etc. Large and small industrial engines are furnished thru a separate organization. Custom automobile bodies have been built by another unit.

In Milan, trucks are fitted with fire fighting equipment, civic service and commercial bodies. This establishment also builds street sweepers. For the military Fiat subsidiaries construct boats, tanks and other armament.

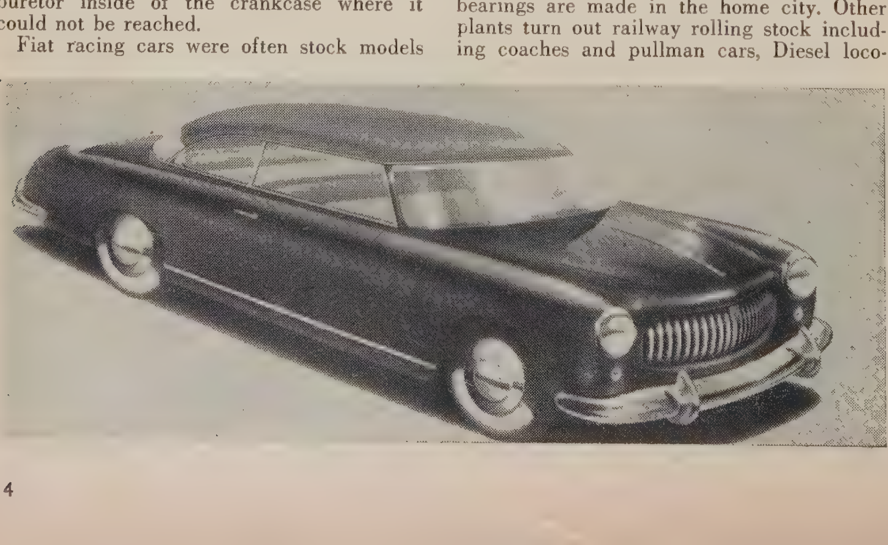
Since 1917 the Company has prepared special lubricants for their products and in 1927 the Petrolea Company was established to refine and market gasolines and oils.

As with several American automobile companies, Fiat produces for the home; refrigerators, ranges, washing machines, heaters, and other domestic items.

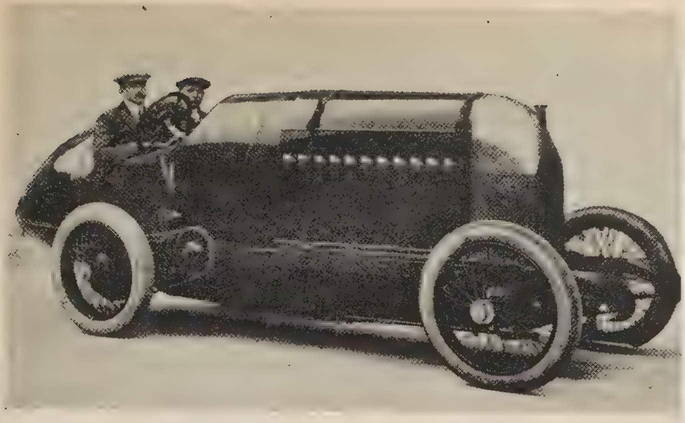
Perhaps it is fortunate that Italy is without coal resources for it resulted in the development of the potential hydro-electric power, a project in which Fiat had a part. Therefore, the Fiat Iron Works are operated with modern electric furnaces, and all industrial power is furnished by electricity. Fiat smelts iron for its own use and is also one of the principle sources of national supply. Hot and cold rolling mills, tube and wire drawing mills and nail making plant furnish every conceivable ferrous product.

The Lingotto Fiat plant is one of the best known automobile factories. Completed in 1923, the five story building (1664 feet long) has the much publicized test track on the roof. Spiral ramps were added for access to this 3380 foot track where each car was tested before shipment. The very appearance of this structure is a monument to the native Italian love of symmetry and art. This plant was extensively damaged during the war but was not destroyed. A new headquarters plant, Fiat-Mirafiori, has been erected nearby and employs the most modern manufacturing methods. Operations are on the horizontally progressive principle in an all ground-level structure. The new mile and a half circuit test track is laid out on the ground parallel to the factory. Much of the machinery for production is designed and built in their own shops. In addition, Fiat buys from Continental, British and American sources, special machine tools to obtain precision mass production. FIAT truly is international and deserves recognition as one of the world's great automotive producers.

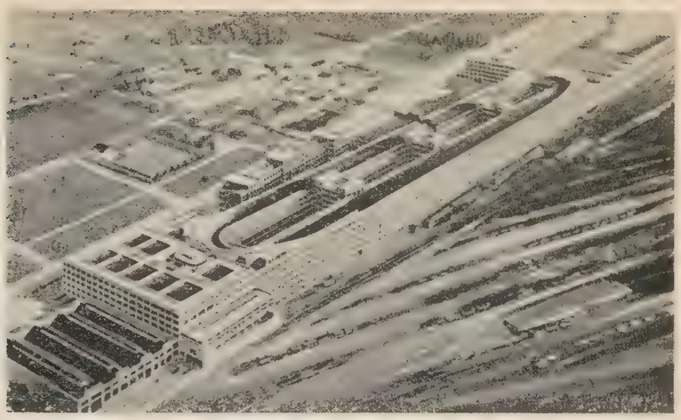
Fiat's greatest production has been on the 500 model, called the "Topolino" or "Mouse" by the Italians.



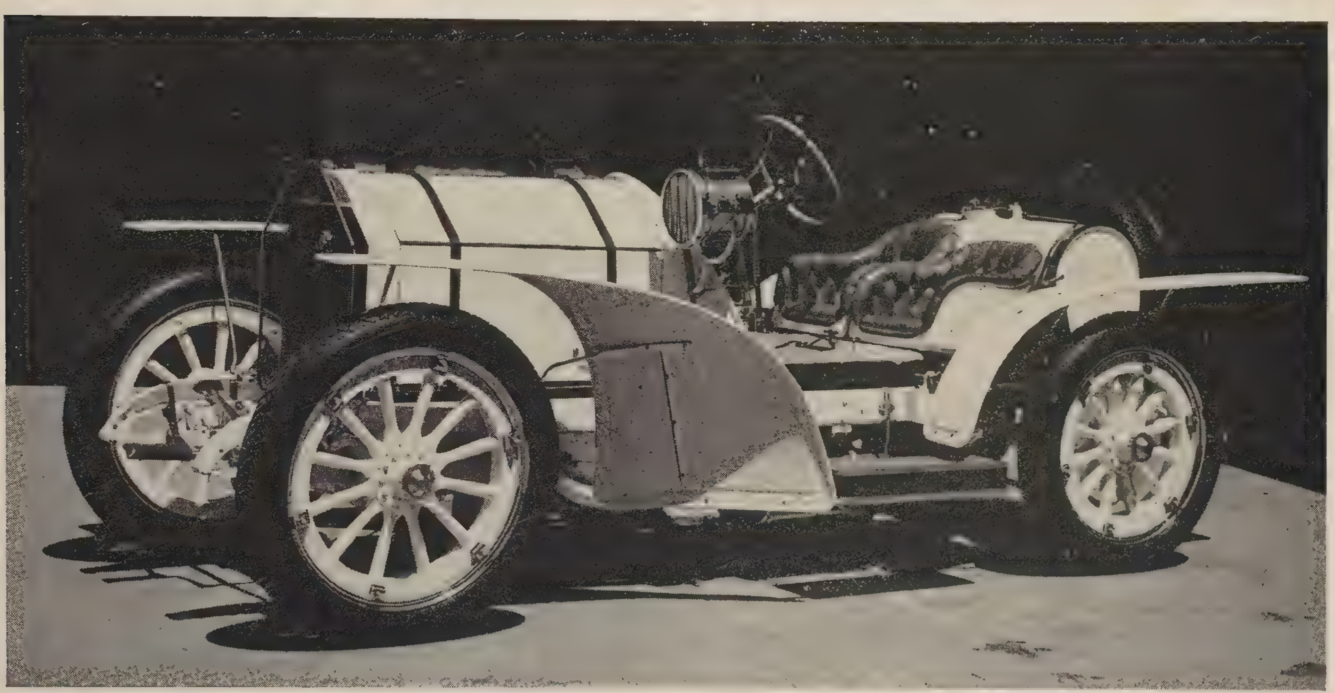
Custom coachwork, such as this example by Farina on the new model 1400, is often seen on the Fiat chassis.



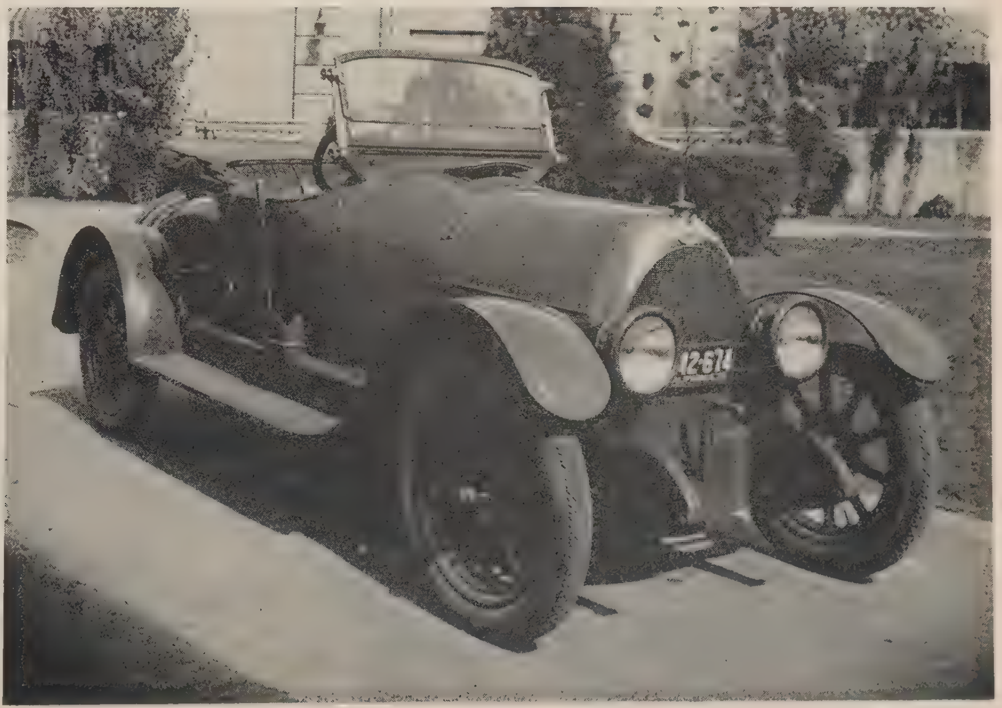
The F.I.A.T. 300 hp four cylinder race car of 1911. The tall hood was completely filled by the monstrous engine. It ran 122 miles per hour.



The famous Fiat Lingotto Works at Turin, Italy. The roof top test track, with ends banked for 60 mph, is about a ¾ mile circuit.



One of the early Fiat racing cars. Originally owned by Eddie Maier, Los Angeles sportsman, the car has been restored and fenders added by the present owner, David Gray.



1913 Fiat roadster once owned by Mr. Stanley Barbee, president of the Coca Cola Bottling Company in Los Angeles. Design was quite advanced for that time. Note outside brake handle installation.

Ferrari Formula 2 1950 Series

LUIGI VILLORESI ESTABLISHES LAP RECORD OF 104.9 MPH AT MONZA

With an engine only slightly larger than the Offenhauser "Midget," the latest series Ferrari, driven by Villoresi, set a new lap record of 104.9 mph at the Third Grand Prix of the Autodrome at Monza. This outstanding car took first place over four earlier model Ferraris at an average speed of 101.5 mph for the 156.6 mile race. The bright red Ferrari team cars had things all to themselves after Hans Stuck, in his AFM (a modified BMW engined single-seater with coil spring i.f.s., tubular chassis, and cast alloy wheels with integral brake drums) dropped out after contending for 18 laps. Other drivers for Ferrari were Ascari, Serafini, Tagini, Bianchetti, and Fangio.

The new Ferrari features De Dion rear suspension, with a four-speed transmission integral with the differential housing. This arrangement, not unlike that of the pre-war Mercedes and the forthcoming B.R.M., improves the handling qualities of the car greatly. Externally, the 1950 model is lower and has a cleaner look than the older models.

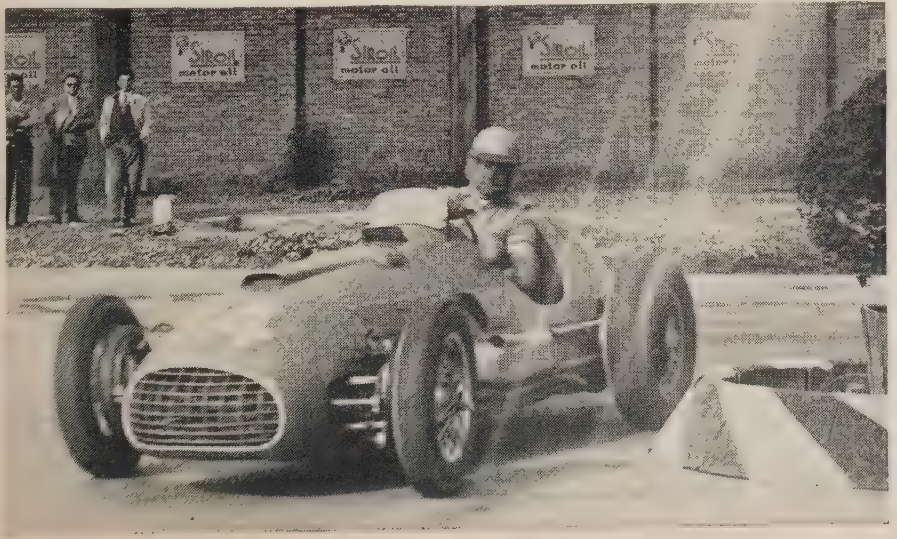
All but one of the Ferraris were the short chassis (90 in.) Grand Prix single-seater, the other being a two-seater sports type. All were equipped with two-leading-shoe brakes and powered by the standard 2-litre Ferrari V-12 engine which has a single ohc for each bank of cylinders. Five-speed gear boxes were used in all but the 1950 models.

ABOUT LUIGI VILLORESI

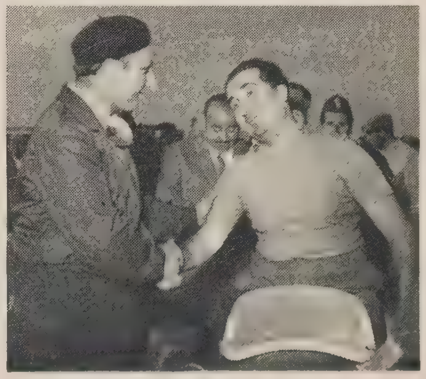
Luigi Villoresi, a master of the Grand Prix style, is one of the better known Italian drivers. He has won first place in nearly all of the Grands Prix at one time or another since he started driving in 1935, in the Coppa Ciano Voiturette race, For all his greying hair he is only 38 and undoubtedly has many successful years ahead of him. He appeared at Indianapolis in 1946, finishing 7th in a 3-litre Maserati despite many pit stops, and made many friends in this country during his brief stay. At the present time he is perhaps Ferrari's leading driver, as he has usually been given the fastest of the Ferraris to drive in both Formula 1 and 2 races.

ALBERTO ASCARI WINS THE GRAND PRIX OF MODENA

Ascari, seen below in his 1950 Formula 2 Ferrari, averaged 67.61 mph as he won the Grand Prix of Modena, Italy. A mixed group of Ferraris, Maseratis and a few Fiats followed the lone new model across the line, as the De Dioned chassis showed up even better than it did at Monza. The tricky Modena circuit, with its interesting fast and slow corners, is perhaps as excellent a test of the suspension system as the Monza circuit is of the engine.



Below is that great Argentine driver Juan Fangio, congratulating Ascari on winning the Grand Prix. Fangio, ordinarily an Alfa-Romeo team driver in Formula 1 racing, drives a 1949 Ferrari in Formula 2 competition. His great success in South American road racing brought Fangio to Europe to test his skill in the "big leagues" and he has proven one of the fastest drivers this year. Alberto Ascari, on the other hand, drives a Ferrari also in the Formula 1 races. In the Belgian Grand Prix, he drove the new experimental (Indianapolis?) unblown 3.3 litre V-12 Ferrari to fifth place.



A 1950 Studebaker leads the parade of sports cars on the Studebaker Proving Grounds where races were held on the 3-mile high-speed test oval. Arthur E. Hunt, Proving Ground Director, is behind the wheel of the pace car.

S.C.C.A. Meet on Studebaker Proving Grounds

On June 17th the Studebaker Corporation opened the gates of its three-mile proving ground speed course to the Chicago Region of the Sports Car Club of America for a day-long program of sports car racing.

There was an interesting field of 38 qualifiers including a Ferrari, several XKs, Allards, many M.G. TCs, two TDs, Cords, and a Studebaker-powered Kurtis Kraft. Dave Garroway was on hand with his Jaguar SS 100, but had his usual bad luck and only completed two laps of a six lap race. What'll you take for it now, Dave?

By far the fastest qualifier, (108 mph) and also the winner of the over 1500 cc race, was Jim Kimberly with his Mille Miglia Ferrari. But the women's qualifying was interesting, too, with speeds starting at 69 mph for Natalie Stevens in an M.G. TC and up to 95 mph by Frances Mashinter in an Allard J-2. The most commendable effort of the day was by Jim Roberts, who drove his hand-operated M.G. TC to fifth place in his race and made a qualifying run at 71 mph.

The first race of the day was for the ten fastest M.G.s for six laps and was won by George Seaverns in 12:58.2 (83.27 mph) followed by Jim Hernley and Sandy MacArthur, all in TCs.

Jim Kimberly won the six lap race for cars over 1500 cc with Bill Mashinter in an Allard J-2 following closely for the first 17 miles when he stripped a timing gear. This left the second spot to Marshall Lewis driving a Jaguar XK-120 and third to Steve Briggs, also in an XK. The winning time for the eighteen miles was 10:05.0 for an average of 107.10 mph. Lewis' average was 100.23 mph.

The remainder of the cars under 1500 cc made up the last of the regular events and was also for six laps. Larry Whiting's Simca brought him home in 13:29.7 at an average speed of 80.03 mph. M.G. TDs took the second and third places driven by John Lincoln and Karl Brocken, both running almost 77 mph.

Women drivers had their chance in the last event on the program in a novelty relay. A bucket of water replaced the usual baton, with the ladies transferring it from one car to another after completing each lap. Winners were supposed to have been determined by the amount of water remaining at the end of the third lap. By the end of the second lap both buckets were empty, but after a long wait on the final lap both contestants finished in a dead heat with full buckets. It seems that a prearranged stop, out of sight of the judges, was made by both teams to replenish the water lost.

The "Bent Axle Trophy" was awarded to Sandy Kremer for qualifying his M.G. in third gear (at 67 mph).

S.C.C.A. — LOS ANGELES REGIONAL GROUP

At a recent membership meeting of the Los Angeles Regional Group of the Sports Car Club of America, John R. Bond presented the gavel of the Regional Executive's office to G. Thatcher Darwin. Darwin is well known locally for his performances in his "Beetle", the most recent being B.T.D. at the Sandburg Ranch Hill Climb.

Also elected to office were: R. Fraser Mac Millan, Secretary-Treasurer and James C. Van Trees, Jr., Activities Chairman.

Darwin outlined an enthusiastic program of competitive events and social activities which were approved by the attending membership.

ATTENTION CLUB SECRETARIES ! !
LET US KNOW WHAT YOU ARE DOING! WRITE:
BOX 110, GLENDALE, CALIF.

EL SEGUNDO TIME TRIALS

The word is getting around! More and more people who are in a position to help are realizing that sports car events can be safe and orderly and cause no great inconvenience or expense to property owners.

Latest example of such cooperation is the standing start quarter mile time trials held on Douglas Aircraft Company property at El Segundo, California on July 9th.

The Southern California Regional Group of the S.C.C.A. were hosts to members of all local sports car clubs and Douglas employees for the full day's activities. There were approximately sixty entrants who each made two electrically timed runs in cars of such variety as a Bentley (21.43), a Standard (30.19), a Cadillac-Hudson (18.61), many M.G.s running from 19.43 to 22.41 seconds, and Richter's Allard J.2 running 14.79 blown and 15.99 with the blower removed.

Sports cars were divided into classes by displacement and touring cars were in two classes—stock and otherwise.

RESULTS

Touring—Class I—Stock			
1	Slatter	'49 Cadillac	18.63
2	La Tourette	'50 Olds 88	18.67
3	Minech	'49 Lincoln	19.03
Touring—Class II			
1	Edward	Cad-Ford	16.74
2	Manning	'40 Ford	17.36
3	Wimer	'49 Ford	17.45
Sports—Class I			
1	Van Trees	M.G. TC	19.43
2	MacMillan (Mrs.)	M.G. TC	20.33
3	MacMillan	M.G. TC	20.35
Sports—Class II			
1	McAffee	M.G. TC s/c	18.32
2	Edwards	Edwards Spl.	18.71
3	Armstrong	M.G. TC s/c	19.17
Sports—Class III			
1	Smiley	Allard J.2 (Richter's)	14.79
2	Darwin	"Beetle"	15.74
3	Sacher	Special	16.20

Best time of the day, of course, Pete Smiley in the blown Allard J.2.

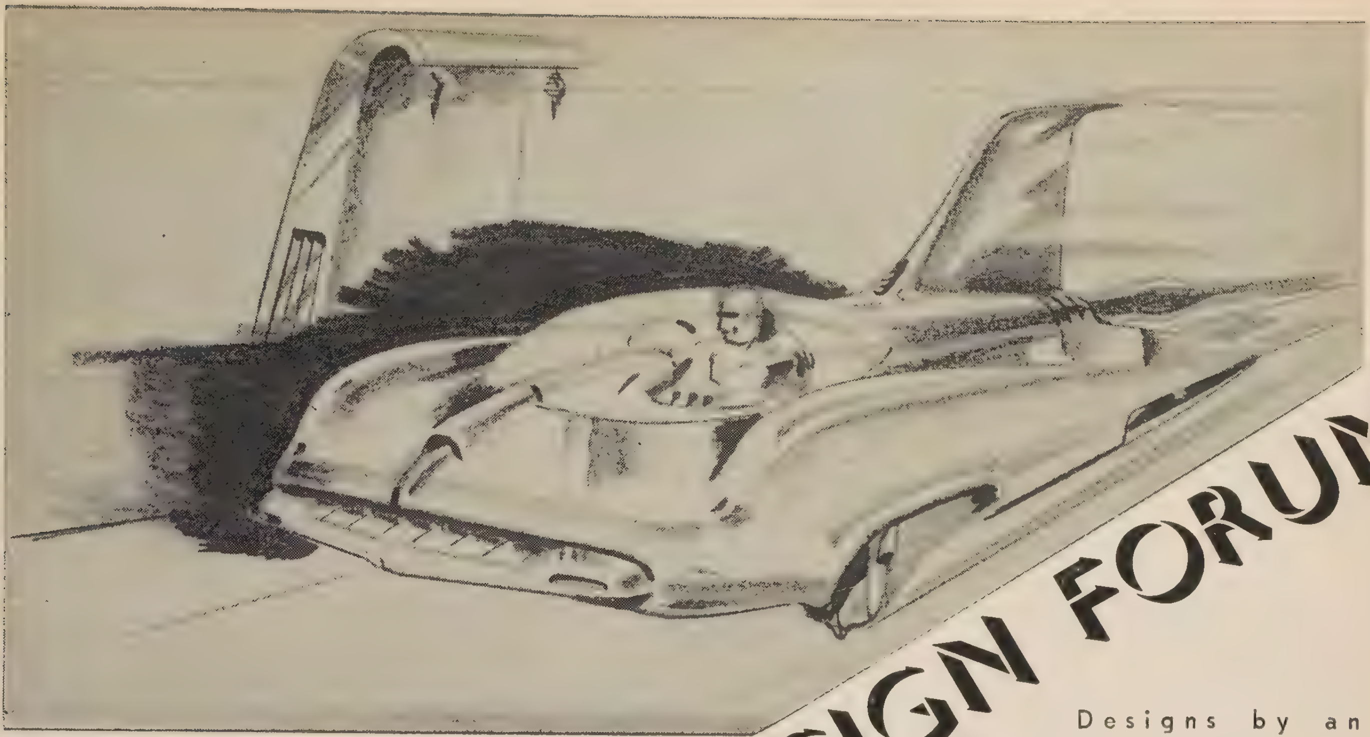
DRIVING THE J.2

(Continued from page 8)

The engine in my car is by no means as radical or fast as it can be made. We were using standard Allard heads and dual manifold. The only improvements to the engine as compared to its delivered form were the addition of Harman & Collins ¾ grind camshaft, Schiefer aluminum flywheel, Vertex magneto, J. E. pistons and Grant racing rings and piston pins.

This combination of equipment makes a very satisfactory job, as demonstrated by its performance in competition and its every day use on the road as transportation to and from work.

The promoters of the event are quite familiar with sports cars as regard classes and general information but their experience as far as organizing a day's racing schedule could stand much improvement. This, of course, comes with the running of more and varied activities. It is hoped that experience gained at Santa Ana will be reflected in better organization at the next race.



DESIGN FORUM

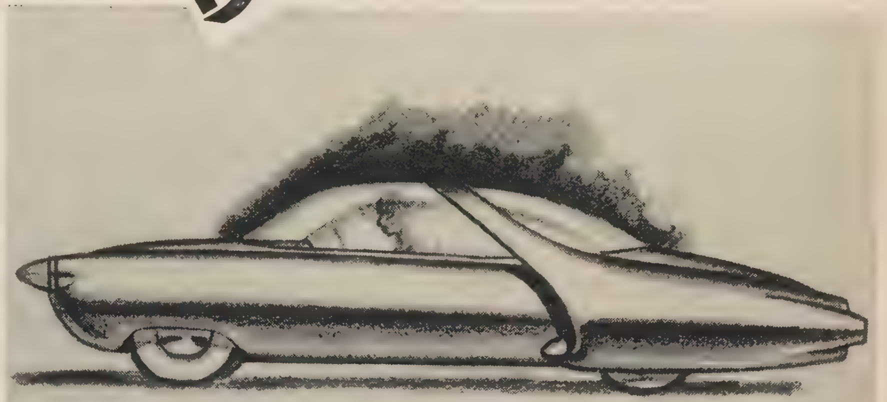
Designs by an
Anonymous Group of
Stylists from ??? Motors Corp.

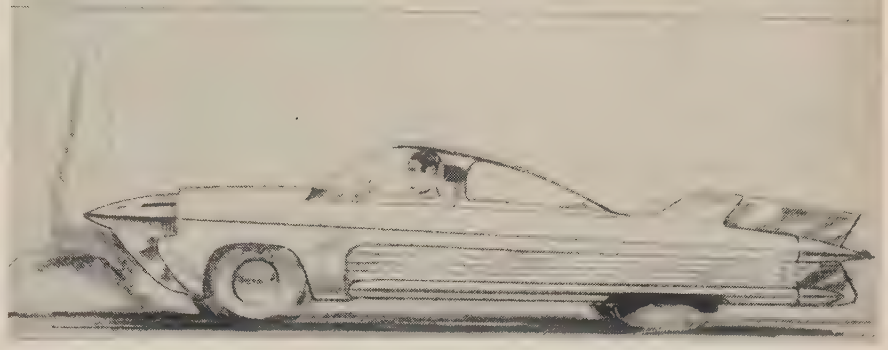
Styling the Turbine Car!

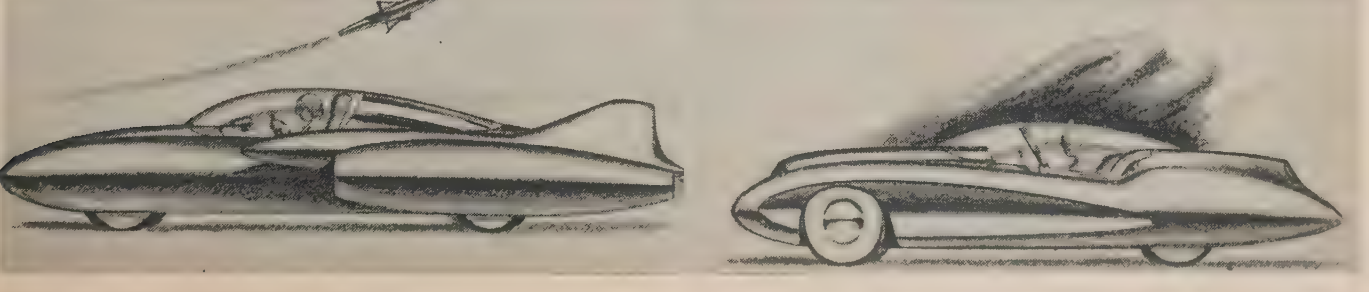
Altho most of the stylist's work is held within bounds by engineering, cost, and production considerations, he is occasionally given free-rein to flex his originality and to freshen his inspirations. From these "Buck Rogers sprees" often come practical ideas which will help frighten tomorrow's pedestrians.

Stylists are "eager beavers". Engineers discuss the mere possibilities of rear-engined cars and lo! the Cadillac shows up with air intake grilles in the rear fenders and Packard with simulated rear-engine louvres in the tail. Now that Rover and Boeing have tested gas turbines, styling has turned down the jet-rocket road.

The sketches presented are a result of a free-rein dream session in the styling section of one of the major automobile manufacturer's where gas turbine fumes are beginning to creep. Some are based on the use of a turbine while others jump the boundry and become terra-jets. All bear a close resemblance to aircraft.

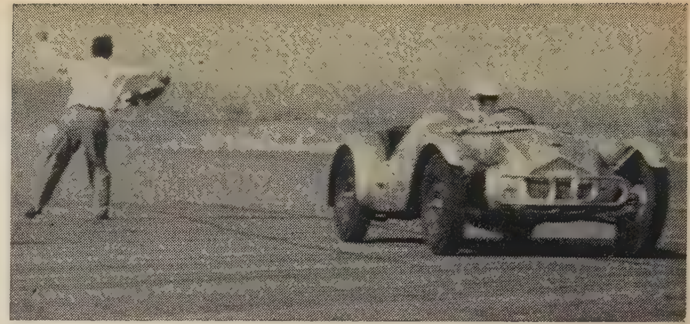






SANTA ANA ROAD RACE

ALLARD WINS – JAGUAR 2nd



Roy Richter gets the checkered flag from Karl Young.
—CAMPBELL PHOTO

The Santa Ana Road Race, held in the shadow of the huge blimp hangars of the Santa Ana Lighter-than-Air Station on June 25th, marked the first West Coast appearance, and subsequent victory, of the amazing Allard J-2. Roy Richter, former race car driver but with little sports car driving experience, won both his class race and the main-event with his Ford-powered Allard J-2 against a field of 2 Jaguar XK's, another J-2, an Allard K-2, the Edwards Sports Car, nine M.G.'s and a Crosley Hot Shot. Phil Hill, in a Jaguar XK-120, was the only threat, but it never seemed that Richter was pushing his car, altho he was consistently lapping the two mile course at under 1:58 and hitting 95 mph on the straights. Phil Hill, who finished second, spun out on the first turn of the first lap, and so was dead last at the start, drove superbly thru the mass of cars to challenge Richter.

Sterling Edwards, winner of the 1500 to 3000 cc race, was battling for 4th place with Jack McAfee (XK-120) when, in the 5th lap, the connecting link between the clutch pedal and the throwout arm "made like a pretzel". The handling of this car appears to be perfect, so that Edwards had only to point the nose in the desired direction with no worry of slides and corrections. Because of the shortage of 1500 to 3000 cc cars, it would be interesting to watch the performance of this car with a larger engine to enable more equal competition with XK's and Allards. At its present displacement, the Edwards falls into the blown M.G. class which cannot give this car any great trouble.

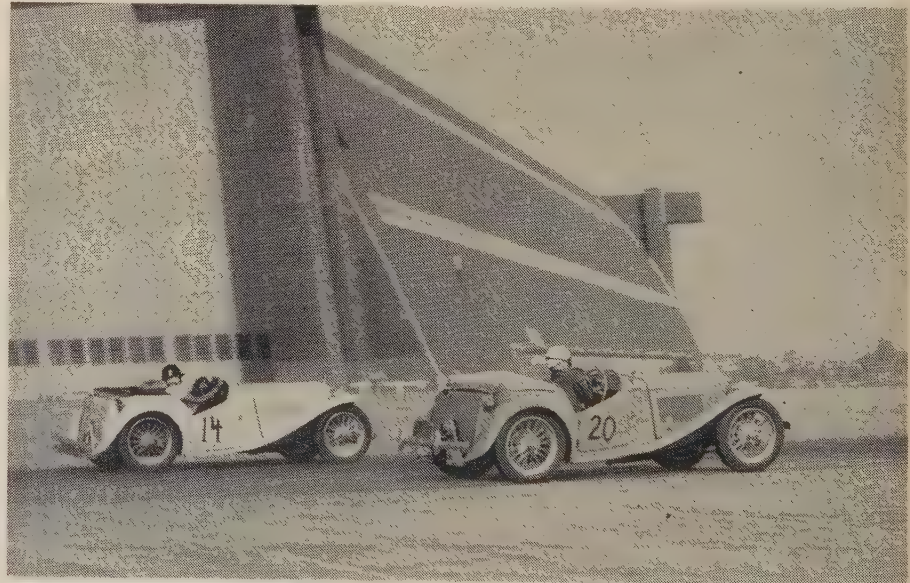
If a trophy were to be given for trying, it would go without question to Ernest B. Graeber and his Crosley "Hot Shot" for his performance in the main event. Tho he ran last, he kept pushing all the way. If some of his will power could have been horsepower, he'd have given the big cars a go! Some of the other drivers could learn much about racing spirit from him...

The first event of the day was for stock sports cars of 1250 cc or less and started with eight M.G.s, including two TDs, and three Crosleys (one a special convertible station wagon). Howard Kelly in his TC led all the way with Don Oliphant (M.G. TC) following until he spun out, W. E. Palmer, in a Hot Shot, then ran second until displaced by Roger Barlow in a TD. The Crosleys turned in an amazing performance by running third, seventh, and eighth. Two M.G.s dropped out.

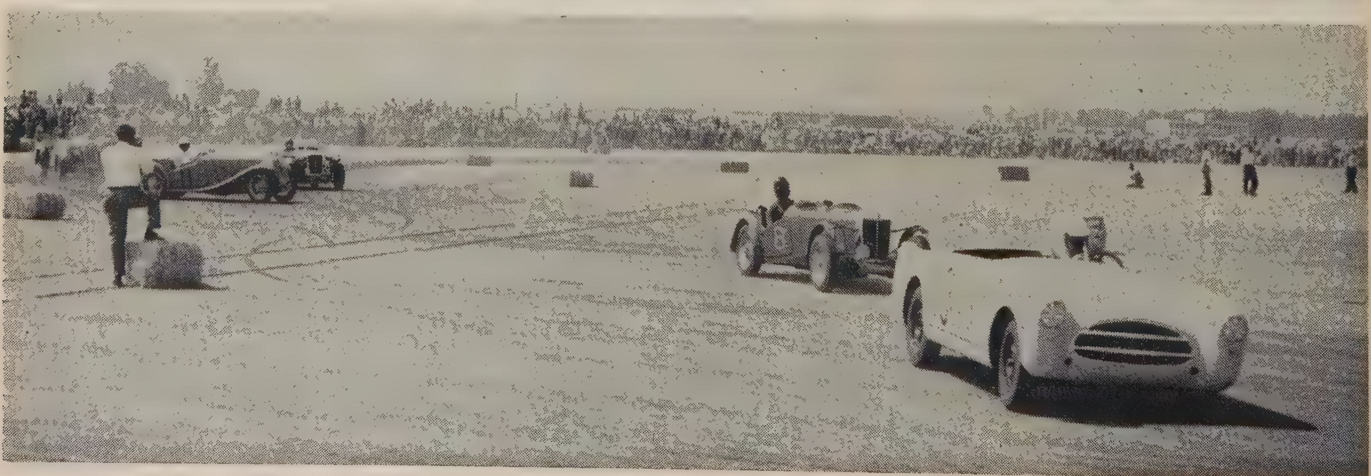
Event two, for sports cars up to 760 cc, ran three laps and drew only three Crosleys —Graeber won.

The next race, eight laps for unblown sports cars of 1000 cc to 1500 cc, was led for several laps by Larry Jacobsen in an M.G. Magnette with an exhaust roar from six straight pipes that drowned out the public address system. This car had the third best M.G. qualifying time, but apparently began over-heating and could not maintain the pace, finishing third after giving both Arnold Stubbs and Bill Kerrigan a good fight before allowing them to pass. The only TD in this race, driven by E. Forbes-Robinson, finished in 4th place. An analysis of the day's racing, as regards the TC-TD performance arguments, need not cause TC owners any great alarm; while the TDs were able to get thru the S turn somewhat faster, the acceleration coming out was not as good as that of most of the TCs.

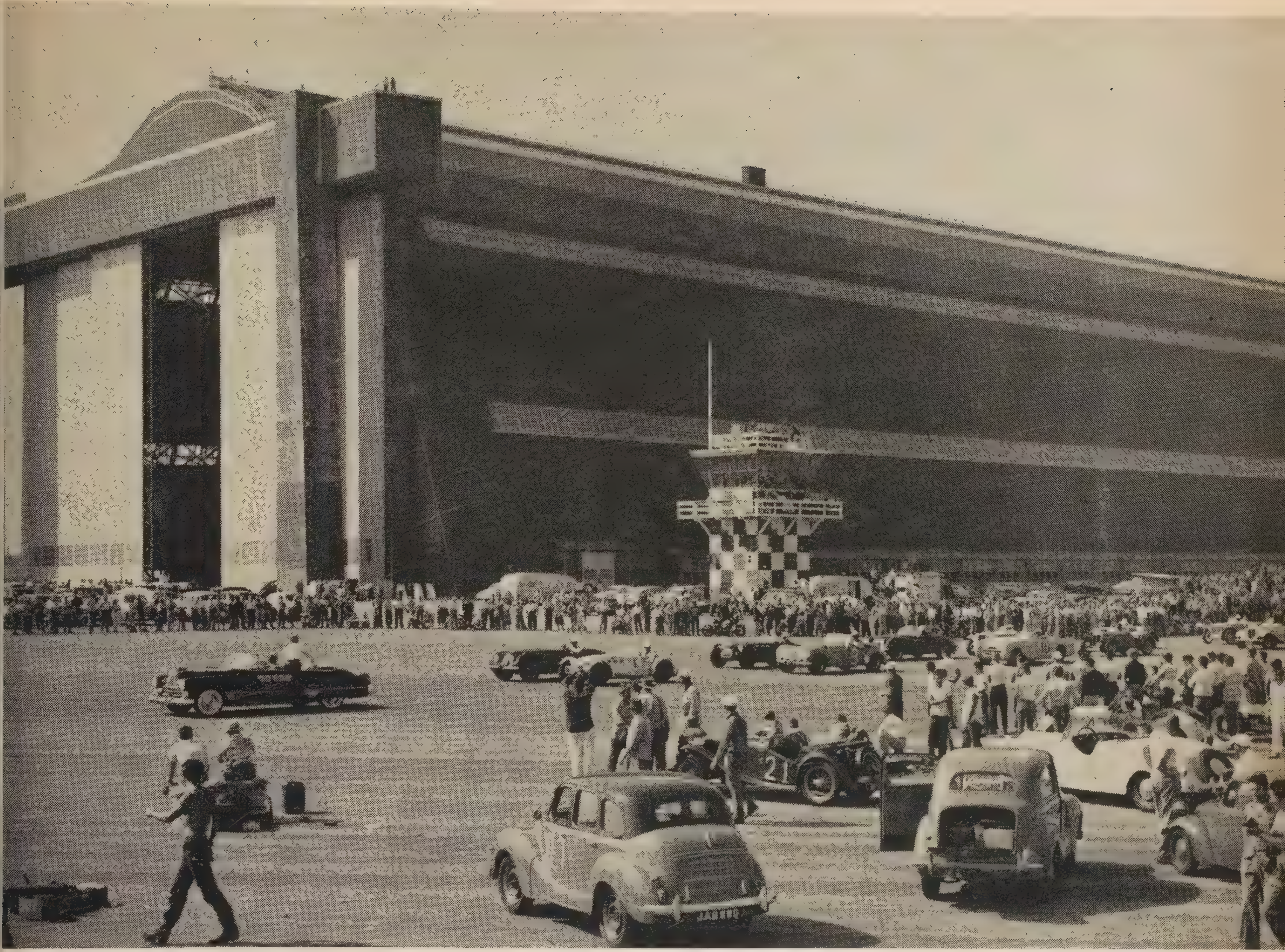
Event four was entered by Sterling Edwards, four blown M.G.s and a Lea Francis. Edwards outclassed the others, but Bill Pollack in John Edgar's "hot rodded" (cycle fenders, lowered headlights) blown



Dick Jung (20) and Dick Yeo (14) fighting for position between turns in the "S". Note the difference in drivers' techniques.
—PHOTO BY JACK CAMPBELL



Sterling Edwards, in the Edwards Spl., leads Bill Pollack, driving John Edgar's #8 M.G., into the second turn. Harold Erb (11) slides in front of an M.G. and a Lea Francis.
—PHOTO BY F. TURICH



Ralph de Palma, Chief Steward, leads the parade lap for the flying start of the main event. AAA starter Karl Young gave the green flag from the rear seat of the Cad. Cars with fastest qualifying times were in front as at Indianapolis. The 1000 foot long blimp hangars are the largest structures in the world without supporting pillars!

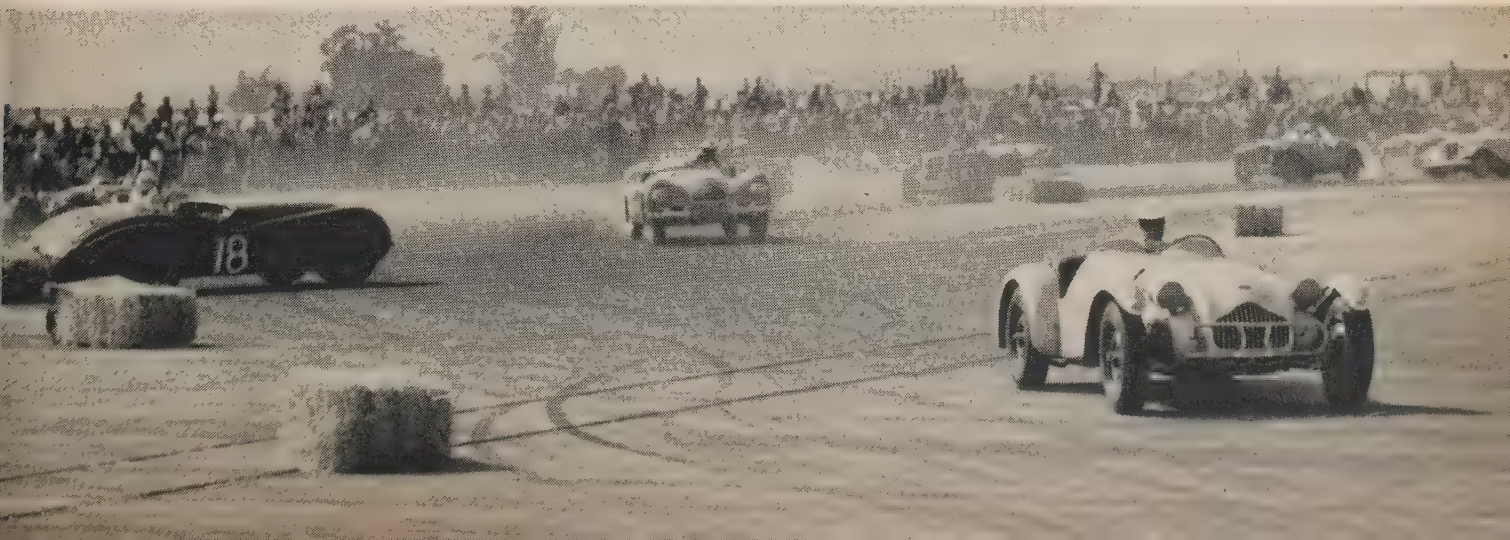
—PHOTOS BY F. TURICH

TC stayed quite close. John von Neuman ran third in a Lea Francis until the last turn to the checkered flag when he lost second gear and was passed by Bob Lowry's M.G.

The "big cars" started rolling in the fifth race with two Allard J-2s, one Allard K-2, two Jaguar XK-120s and the Edwards Special. Roy Richter finished in 9:49.50 for the ten miles for a lap average one tenth of a second slower than in the main event —probably just getting it warmed up! Basil Panzer's brand new J-2 lost a carburetor float chamber plug and had to stop after the first two hundred yards. The second spot was won easily by Phil Hill, but his hot XK was no match for Richter's Allard. Tom Frisby finished third, with the help of blackboard signals from his pit crew, followed by Edwards. Jack McAfee running last, never seemed able to coax the necessary acceleration from his XK.

Two classes of American and Foreign cars ran simultaneously in the sixth race—under and over 4000 cc. Lack of entries spoiled what would have been one of the most interesting events, tho there were exciting moments when Bill Quinn of *Road and Track*, in his 1947 Ford, almost caught

(Continued on page 28)



Roy Richter leads out of the first turn of the main event while Phil Hill, after spinning into the hay bales, sits with arms upraised signifying that he will not move until all cars have passed. Just a few laps later he was back in second place to challenge Richter.

WHY 12 VOLTS?

Lucas Engineers Provide Some Interesting Answers

Much has been written and said on the subject of the technical aspects of the correct voltage and it is of value to get a perspective view of this problem. At one end of the scale of general electrical practice there are electrical systems such as, for example, a flashlight or door-bell where the current is very small and a low voltage is used. As loading increases, so the fundamental trend is to go to higher and higher voltages with the aim of reducing current and resulting losses as far as possible, and at the top end of the scale, for long-distance transmission of power, voltages as high as 287,000 are employed.

Where then does the correct choice lie? On cars, the modern trend is for increased electrical loads by the addition of heaters, radios and multiplicity of stoplights, license plate illumination lights, etc., and many accessories which were regarded as luxuries a short while ago are now standard equipment. It must be borne in mind that it is the electrical load rather than the size of the car that matters, and the actual difference in load between our smallest and largest cars has narrowed considerably.

The battery on a 12-volt system, for the same energy content, must always be a little heavier as the number of divisions in the case, connectors, etc., must be double that of a 6-volt unit. On the other hand, however, the size and therefore the weight of the other electrical units, notably, the generator and starter, can be reduced. A critical review of our post-war designs, in the light of increased loads, shows that sufficient saving of weight and size on generator and starter to counter-balance the increased battery size and weight can be achieved, and thus a 12-volt set for our light cars can be produced in as cheap and light a form as a 6-volt equipment, while retaining the fundamental advantages of the higher voltage

Thus, not only has the stage been reached when it pays to fit 12-volt equipment on the type of car being produced in Britain today, but the way ahead is clear for dealing in a satisfactory manner with the heavier duties that will be placed upon electrical equipment in the forseeable future—without a change in voltage.

SOME TECHNICAL POINTS . . .

STARTING

In practice, a 12-volt starter will develop something approaching twice the brake horsepower of its 6-volt counterpart of the same dimensions. This is, of course, due in the main to the fact that in comparable 6- and 12-volt systems of equal power, the conductors in the 6-volt will be required to take double the current. The resistance must thus be halved, which means that the cross sectional area of the copper must be doubled and in practice it is not possible to accommodate that much copper in a starter of the same size. Voltage drop in cables and brushes presents a similar problem.

The difference in performance is well illustrated in Fig. 1, which shows the performance of 6- and 12-volt starters of the same size and weight, using batteries of the same watt-hour capacity.

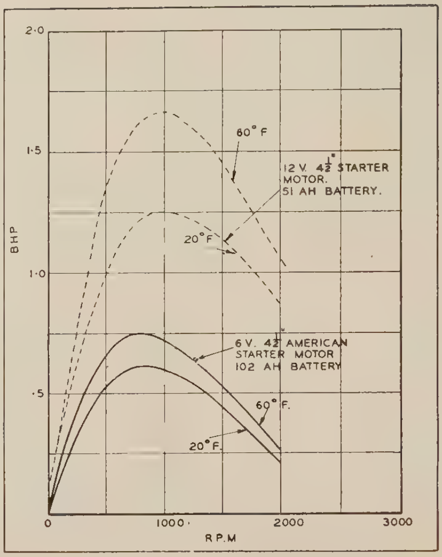


Figure 1

Arising from the same fundamentals, another serious difficulty is present with 6 volts. Under certain engine conditions, great difficulty is experienced in keeping an inertia-engaged pinion in mesh with the flywheel for a sufficiently long time to effect a start. This is because the lower torque developed in the 6-volt starter is insufficient to accelerate the armature rapidly enough to maintain engagement with the compression. This difficulty can be overcome by the use of manual or pedal engagement where the pinion is physically held in mesh with the flywheel. Such systems, however, involving as they do the use of an outboard bracket, engagement mechanism and overrun clutch, necessitate considerable increase in cost, weight and complication.

It might appear at first sight that a small British engine of 1.5 litres capacity would require less power to crank than an American engine of 2-3 times the capacity. Due to factors inherent in small engines and to the less highly developed carburation systems employed on most British engines, this is not so. A recent test in our cold room established that at 10° F., using S.A.E. 20 oil, a British 4-cylinder engine of 1.535 litres capacity required 16% more power to crank at the 90 rpm necessary for a start than a 3.670 litres 6-cylinder American engine at the 50 rpm it needed. This is representative of our experience.

IGNITION

It must be conceded that on 4-cylinder engines of normal compression ratio, a 6-volt system will function equally well as a 12-volt equivalent, but the fact that contact breaker limitations prevent a 6-volt ignition coil being supplied with as much energy as 12-volt coil, does present difficulty in 6 or 8 cylinder engines where the closed period is comparatively short, and it is difficult to pack enough energy into the coil during this short period without an unduly high primary current.

It may be interesting at this stage to review two recent articles written by Mr. H. L. Hartzell, of the Delco Remy Division of the General Motors Corporation, in which he considers engine design trends. He noted that it was the majority opinion in the United States that compression ratios were going up, probably to 9:1, and, as better fuels become available, even higher; that the drive for fuel economy would be continued and hence this would mean running on leaner fuel mixtures; that the problem of radio interference caused by ignition systems would have to be overcome and that the problem of packing more energy into a coil during a short closed period would have to be tackled.

From these factors he deduced that an increased voltage at the spark plugs of at least 25% would be required to enable the engine to run on a 9:1 compression ratio, and that this voltage would have to be even higher if it became necessary further to retard the spark or increase the compression ratio. It is, of course, axiomatic that the leaner mixtures he envisages will require further increase in spark energy, and Mr. Hartzell pointed out that any increase in ignition secondary circuit electrostatic capacity which might arise due to screening measures for suppression of radio interference would lower the voltage at the plugs and need a corresponding increase in secondary terminal volts. These factors drove him to the conclusion that 12-volt system or a dual-coil 6-volt arrangement would be necessary. The advent of the experimental 12:1 ratio engine announced some time ago by General Motors has strengthened this view.

In this connection Fig 2 will be of interest. This illustrates the margin which a 12-volt coil has in hand compared with a 6-volt unit when contact breaker conditions are equally severe.

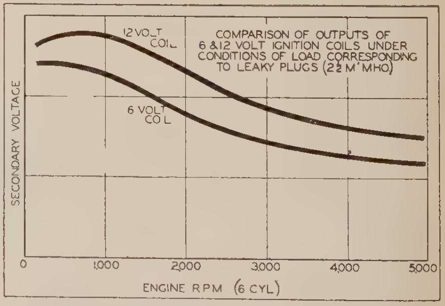


Figure 2

Fig. 3 illustrates the rise in plug voltage for different plug gaps, as the compression ratio increases.

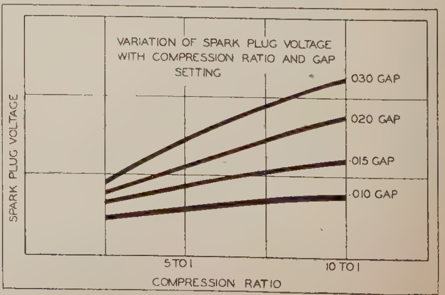


Figure 3

CHARGING SYSTEM

Other factors being equal, a 12-volt charging system will produce an energy output about 70% greater than can be obtained from a corresponding 6-volt generator of the same dimensions. There are various measures which can be adopted to increase the output of the 6-volt unit, but these same measures can be applied to a 12-volt generator. The output of the generator is always limited by factors of temperature, brush drop, speed, armature reaction and iron and copper losses. With the higher current flowing in the 6-volt generator, it will be clear that losses must be greater and its output consequently limited when compared with a 12-volt system. Above all, the limitations on field current which the regulator points can handle involves a weaker field, or more space allotted to the field windings and thus a reduced output co-efficient for the armature.

Fig. 4 illustrates the output characteristics of typical modern 6- and 12-volt generators of the same size and approximate weight and also illustrates the output obtainable from a small 12-volt generator having only 60% the weight and size of the larger units. All these generators are in current production in England or the U.S.A.

A 6-volt system to meet present-day loads would require to have an output of the order of 35-40 amperes, at which level the present design of regulator will have difficulty in maintaining satisfactory control. Additional cost and complication would have to be incurred by the adoption of some form of current-voltage regulation as favored by the U. S. when facing the same problem.

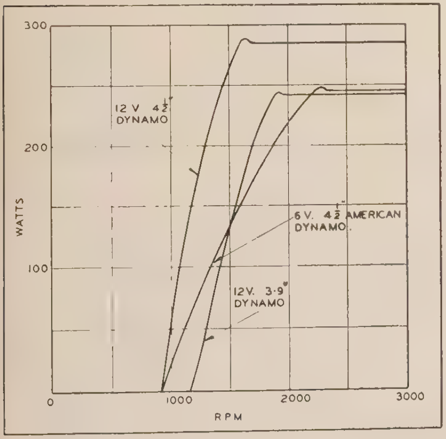


Figure 4

WIRING SYSTEM

The losses in the wiring of a car being in proportion to the square of the current flowing are clearly much greater in a 6-volt system where the currents themselves may be of twice the magnitude.

Voltage drop, even on a 12-volt system, must be carefully reckoned with and a practical example of the effect of voltage drop affects the volume of output of a modern windtone horn. It should be noted that the curve is for 12-volt horns.

In the case of 6-volts, the already high operating currents are doubled, rendering normal wiring quite impracticable and a relay has to be employed. This is common practice in the U. S. under the same conditions and the use of relays is even extended to other circuits in an effort to overcome this fundamental disadvantage of the 6-volt system.

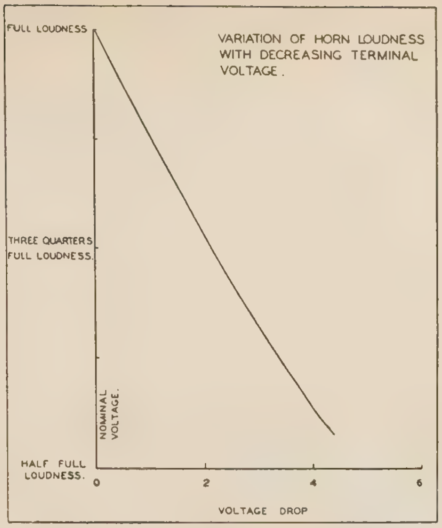


Figure 5

LIGHTING

The light output is dependent on the efficiency with which the filament operates and in the case of a 6-volt headlight bulb, which has a relatively short and thick filament, heavy heat losses occur through the supporting wires. As a result of this, the mean temperature of the filament is appreciably less than that of the central portion because, as the maximum permissible temperature of this portion is limited by the melting point of the filament material, the mean temperature and efficiency is, therefore substantially reduced.

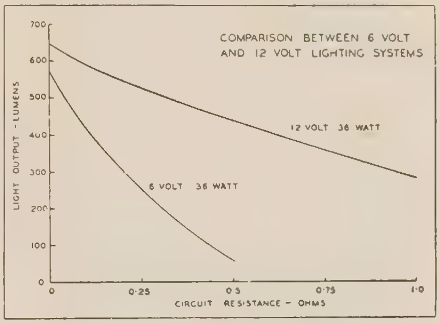


Figure 6

The longer and thinner filament of the 12-volt headlight bulb has a more uniform temperature thruout its length and consequently its efficiency is higher. This advantage is considered to more than outweigh the further departure from the point source required by the parabolic reflector.

When referring to efficiency, it is important that the life of the bulb is not overlooked. Quite obviously a given bulb could have a very high efficiency but be heavily over-rated with a resultant short life. In practice, for a similar life, a 12-volt headlight bulb is about 6% more efficient than the 6-volt equivalent.

Loss of output due to increase in circuit resistance and, therefore, voltage drop is even more marked than is the case with horns, as will be clearly seen from Figure 6.

BATTERIES

So far there appears to be no point on which the 12-volt system fails to score against the 6. It is generally argued, however, by the protagonists of the 6-volt system, that the saving in battery cost and weight is a factor which over-rides all other disadvantages. It is interesting, therefore, to compare 6- and 12-volt batteries at both ends of the scale: on the one hand, batteries suitable for a light British car of up to about 2 litres capacity, and on the other, those suitable for a standard 30 hp American car.

The nominal capacities are almost exactly equal in both the 6- and 12-volt comparisons, but at starting currents the balance is slightly in favor of 12 volts in both cases. In the light-weight class, the 12-volt unit is heavier by 9 lbs., but as the size of load increases the difference decreases to 5 lbs. This dimishing weight differential is a factor of importance, and if a case can be made for a 12-volt equipment in the light-weight car class, there is an even easier one to be made out as the electrical load increases.

TABLE OF COMPARISON FOR 6-VOLT AND 12-VOLT BATTERIES

	60° F.	20° F.	Weight
LIGHT CARS			
6-volt Watts at 10 sec. at 300 amps. 6-volt, 75 A.H.	1,440	1,215	38 lbs.
12-volt Watts at 10 sec. at 150 amps. 12-volt, 38 A.H.	1,552	1,380	47 lbs.
LARGER CARS			
6-volt Watts at 10 sec. at 300 amps. 6-volt (U.S.A.) 102 A.H.	1,590	1,440	54 lbs.
12-volt Watts at 10 sec. at 150 amps. 12-volt, 51 A.H.	1,620	1,475	59 lbs.

PRACTICAL COMPARISON OF CAR SETS

Table A sets out the actual weight comparison of a 6-volt and 12-volt set for a British car of up to about 2 litres capacity. It is assumed that the load requirements are as follows:

	6-VOLT	12-VOLT
Headlights	(36 w.) 12 a.	(36 w.) 6 a.
Side and Tail lights	(3 w.) 2½ a.	(6 w.) 2½ a.
Ignition	1½ a.	1 a.
Radio	6 a.	3 a.
Heater	6 a.	3 a.

TABLE OF WEIGHTS

	6-VOLT	12-VOLT
Generator	17 lbs. 4½" diam.	12 lbs. 6 oz. 3 9/10" diam.
Starter	20 lbs. 15 oz. 4⅛" diam. pre-engaged	12 lbs. 5 oz. 3½" diam. inboard
Battery	38 lbs. 75 A.H. cap.	47 lbs. 38 A.H. cap.
Cabling (extra for 6 volts)	1 lb. 8 oz.	
TOTAL	77 lbs. 7 oz.	71 lbs. 11 oz.

Thus, there is an advantage to the 12-volt system of 5¾ lbs.

ROAD & TRACK PHOTOGRAPHY

Conducted by Karl A. Barleben

WHICH CAMERA?

The choice of a suitable camera is always a stumbling block for the beginner—quite naturally, since it is admittedly difficult to evaluate features and possibilities without some previous knowledge and experience in photography.

Many factors should be considered before buying a camera, as no one model can be regarded as being truly "universal" and completely suited to all kinds of work. In addition, there is the price factor. Let's look at it this way . . . as with everything else, the cost of a camera reflects its precision, features, scope and utility. You generally get what you pay for; no more and no less. However, the price factor is not necessarily an index of utility in this case, as a simple box camera costing around five dollars can, indeed, be made to produce pictures worthy of salon exhibition. But the rub comes when you want to shoot speeding objects, or subjects under poor lighting conditions. It is then when the higher priced cameras, with their variable-speed shutters and fast lenses pay off.

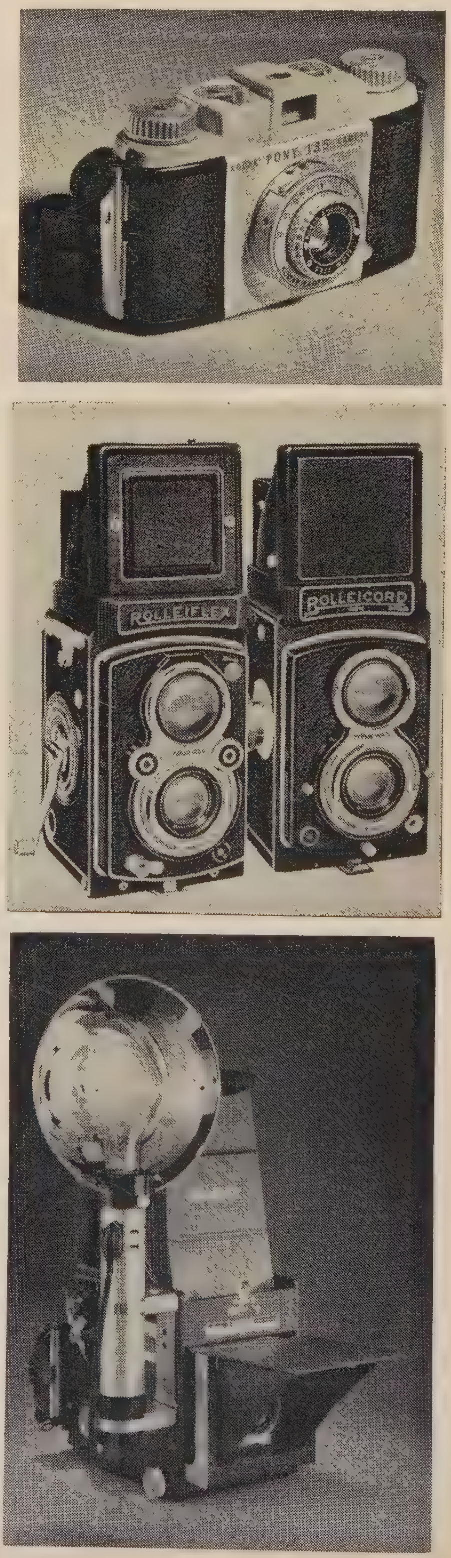
If you can be content to make simple pictures involving good lighting and not too much movement, the box camera will serve you nicely. It also makes an excellent camera to start off with, as it is simple to operate and lacks the many gadgets and controls which sometimes confuse the beginner. But sooner or later, as proficiency is gained, the need for a more flexible, versatile camera becomes apparent. It is then that we run smack into a host of problems . . . price, size, type, etc.

Before going further, it is well to mention that it is not so much the kind of camera you use, as how you use it that counts! All too often an enthusiast will buy an expensive camera, feeling that because he paid a lot of money for it, he need not worry much about anything else . . . that the camera, in some mysterious way, handles all problems automatically. This is a serious mistake, for actually the better the camera, the more its owner must know about photography in order to properly use it. Basically, it is of greater importance to know how to handle a camera . . . any camera . . . than to feel that a good camera is essential to good results.

There are hundreds of sizes and models of cameras to choose from. Looking at the matter from the point of view of the motor enthusiast, we might narrow this number down considerably . . . presupposing that a medium-priced camera (between one and two hundred dollars) is desired. Three broad size classifications present themselves; those making 4x5" negatives (exemplified by the Graflex, Speed Graphic, Busch, etc.), 2¼x2¼" negatives (Rolleiflex, Rolleicord, Ciro-Flex, Kodak Reflex, Argoflex, etc.), and 35mm negatives (Leica, Contax, Ciro-35, Vito, Canon, Kine Exakta, Pony, Kodak-35, etc.).

Obviously cameras making smaller negatives are smaller, more compact and easier to carry. On the other hand, however, remember that small negatives frequently introduce additional care in handling and developing . . . a point to consider. The 4x5" negative, while more or less standard for news, sports and professional work, is sometimes too big for the needs of the average motor enthusiast. At the other extreme, 35mm negatives . . . hardly larger than an air-mail stamp . . . require delicate treatment, fine-grain development and a complete avoidance of dust and scratches. Evaluating all factors involved, it would appear that, for all practical general purposes, a medium-sized negative, such as the 2¼x2¼", would most ideally suit the needs of the average motor enthusiast, as the film material is sufficiently small to be inexpensive, yet big enough to side-step the care and attention attendant with 35mm.

Top—Kodak Pony 135 miniature 35 mm
Center—Rollei 2¼ x 2¼" reflex cameras
Bottom—Graflex 4 x 5" single lens reflex



As to camera type, there is the usual "folding" camera which offers convenient carrying and portability. The miniature cameras do not generally fold, as such, altho a few, such as the Voigtlander Vito, do fold up into a very small size. At any rate, these small cameras are easily carried and held, so there is no problem here. The reflex type camera, today the most popular type, is not able to be closed or folded, due to its inclusion of a ground-glass focusing screen. Yet they are not a burden to carry or use especially in the 2¼ x 2¼ size.

The Super-D Graflex is a famous camera which comes in 4x5". It is of the single-lens type, in which the ground-glass reflecting mirror swings up and out of the way at the instant of exposure. The Rolleiflex, Kodak Reflex, Ciro-Flex and Argoflex cameras . . . all 2¼x2¼" . . . are of the twin-lens type; that is, the mirror is in a fixed position, and one lens makes the exposure on the film while the other is used merely for focusing and composing. Reflex cameras are ideal, and the first choice of most professionals who prefer to focus visually upon a ground-glass rather than with the aid of an optical range-finder.

For car and racing photography, one of the twin-lens reflex cameras will probably be the best, all-around choice. If you don't mind paying a little more in the interest of enjoying various and, I might add, highly desirable features, the Rolleiflex stands as the supreme instrument of its kind. Over and above the usual features, such as ground-glass focusing, f:3.5 lens, shutter speeds up to 1/500th second, etc., this camera has what, in my opinion, is a "must" for race photography . . . the ability to set the shutter and wind the film automatically and simultaneously by a mere half turn of a crank. This means that a series of pictures can be made in rapid succession . . . or as fast as the photographer can turn the crank. At races and similar events, where things happen suddenly and quickly, pictures of dramatic import are usually lost because the photographer is not able to re-set the shutter and wind the film fast enough. This is why so many newspaper and magazine, to say nothing of professional and sports, photographers use the Rolleiflex more and more as their "bread-and-butter" camera.

Your comments on the matter of equipment will be appreciated. Obviously we have merely skimmed the surface here, space limitations being what they are, but we shall endeavor to pick up additional points here and there in future issues as the occasion demands. It is to be hoped that these few words will serve to introduce the wide range of cameras available, and perhaps, aid in your intelligent selection of your first, or a new, camera. I shall be happy to make any specific, impartial recommendations by mail should you want further clarification. Be sure, when writing, to indicate the sort of work you intend doing chiefly, how much you want to spend for a camera, and any other pertinent information that will enable me to more completely evaluate your requirements so that I can offer concrete suggestions.

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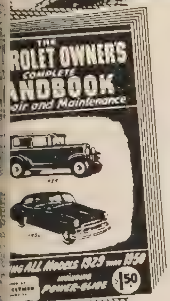

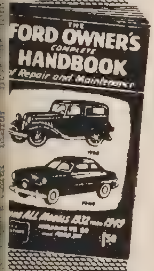

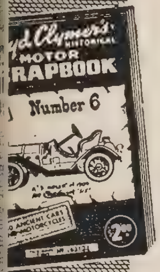

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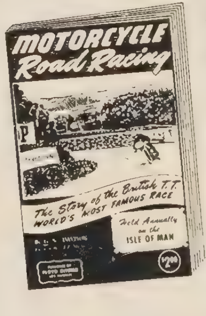

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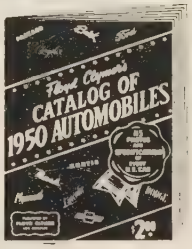

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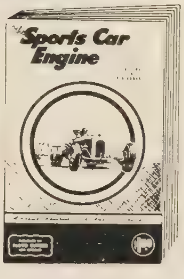

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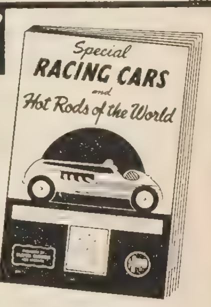

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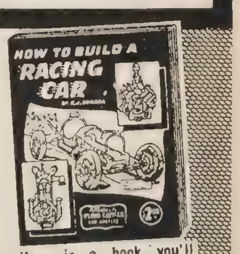

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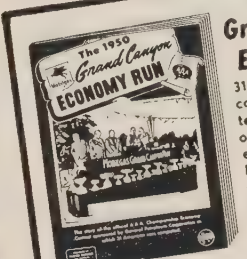

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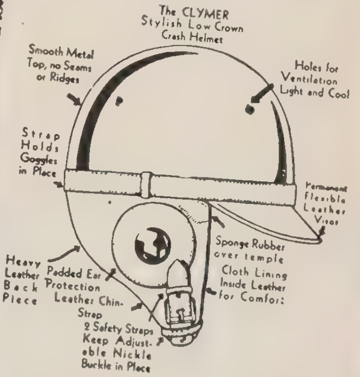
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Authorized by the Commission Sportive of the Federation Internationale de l'Automobile, Paris, in accordance with Articles 15 and 19 of the Code Sportif of the FIA. Run under the Sanction of the American Automobile Association. Sponsored by the Chamber of Commerce, Watkins Glen, N.Y., and the Sports Car Club of America, Incorporated.

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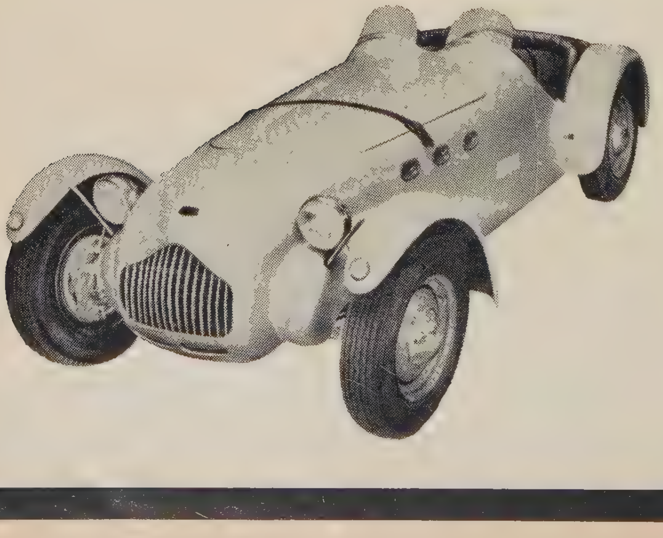

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An ALLARD J-2 Competition 2-Seater, powered by a Cadillac engine and driven by TOM COLE and SYDNEY ALLARD, ran 3rd in General Classification in the gruelling 24-hour LE MANS RACE, was 1st in its class and broke the class distance record, previously held by a supercharged Bugatti, by covering 2118 miles at an average speed of 88.2 mph.

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BOOK REVIEW

THE SPORTS CAR ENGINE

by "Calculus" Clymer—Price $1.50

Technical in nature but not too involved, the book "The Sports Car Engine" presents an interesting coverage of the subject. While the author's primary purpose is to acquaint the new sports car owner with what goes on under the hood, it also may serve as a guide for the prospective purchaser. There is much excellent information concerning good and bad features of engine design, as well as data on tuning, blowers, and gearing.

The list of chapters includes: Principles of Induction Systems for High-Speed Engines, Mechanical Design for High Power Output, Design of the Cylinder Head, Lubrication, Ignition for Sports Engines, Forced Induction, Power and Performance, and Tuning the Standard Sports Engine.

This book is a reprint by Floyd Clymer in handbook form. There are 110 pages, including several "salon type" photos of the world's best known sports cars, and numerous sketches and an attractive sales price.

Like other Clymer publications, offset lithography is used, resulting in dull illustrations and an attractive sales price.

LEAF SPRINGS ON 1951 OLDSMOBILE

Oldsmobile will abandon coil springs in the rear suspension system of its 1951 models and will adopt the Pontiac type of rear leaf springs. It is a so-called variable-rate spring, with the short lower leaves coming into use only as the main leaf receives a major depression under load.

In discussing the change, Oldsmobile engineers declared, "We don't have a leaf-spring man in the place anymore so we have decided to rely on Pontiac's experience and design."

The shift from coils to leafs is reported to have been made to save on cost and to improve stability and riding qualities. No doubt the sales department will coin some term such as "Satin-glide" or some equally horrible name.

ANNOUNCEMENT!

The offices of
Road and Track Magazine are now
located at **540 W. Colorado Boulevard,**
Glendale 4, California.

This move was made to increase the productive efficiency and thus better fulfill the obligations of a recently obtained national distribution contract.

In order that all effort may be concentrated on the publication of **Road and Track,** all associated activities have been discontinued.

Automotive books and foreign magazines formerly available from **Enthusiasts' Publications** are now handled by:

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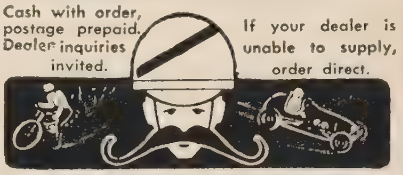

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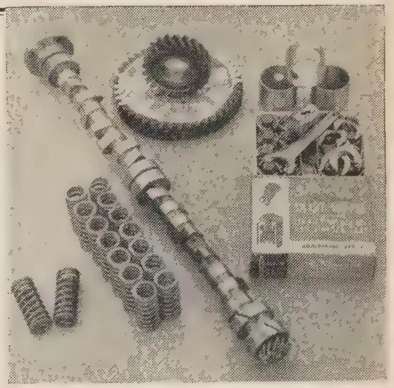

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SANTA ANA ROAD RACE

(Continued from page 18)

Jack McAfee's Mexican Road Race Cadillac in several of the turns. In one of these McAfee left the course into the dirt—but Quinn, almost on his bumper, followed suit. The two A-40s tried gamely, but never got near enough to Quinn to even smell his exhaust.

By far the fastest race of the day was the match between Rip Erickson in Willis Baldwin's "bullet on wheels" (*Road and Track,* May 1950) and D. G. Satcher in his G.M.S. Ford Special. After the unsatisfactory results at Palm Springs when Baldwin's car lost the distributor cap on the first lap, everyone was to the breath-holding point waiting to see what would happen here. The two fire-engine-red cars got off to an even start—then Erickson shifted to second gear and shot ahead. His lead increased phenomenally after each corner until after only two laps, Satcher was trailing by over a quarter of a mile. This is all the more amazing when one considers that Satcher has had fastest-time-of-the-day in many events and has generally been considered one of the fastest road cars on the West Coast.

SANTA ANA ROAD RACE RESULTS

COURSE: 2 miles, all paved (airport).

EVENT 1

Novice Up to 1250 cc 10 Laps

H. E. Kelly	M.G. TC	22:41.15
R. Barlow	M.G. TD	
W. E. Palmer	Crosley	

EVENT 2

Up to 760 cc 3 Laps

E. B. Graeber	Crosley	9:30.22
L. M. Raine	Crosley	
J. Salmon	Crosley	

EVENT 3

1000 to 1500 cc u/s 8 Laps

A. Stubbs	M.G. TC	17:32.56
B. Kerrigan	M.G. TC	
L. P. Jacobsen	M.G. Magnette	

EVENT 4

1501 to 3000 u/s up to 1500 cc s/c 5 Laps

S. Edwards	Edwards	10:19.20
W. Pollack	M.G. TC, s/c	
R. G. Lowry	M.G. TC, s/c	

EVENT 5

3001 cc to 4500 cc s/c 5 Laps

R. Richter	Allard J-2	9:49.50
P. Hill	Jaguar XK-120	
T. Frisby	Allard K-2	

EVENT 6

American and Foreign Passenger Cars
Cl. I over 244 cu.in., Cl. II under 244 cu.in.
3 Laps

J. McAfee (I)	Cadillac	6:34.80
B. Quinn (II)	Ford (1947)	
G. Page (II)	Austin A-40	

EVENT 7

Unlimited 2 Laps

R. Erickson	Baldwin Spl.	3:45.63
D. G. Satcher	Ford-Special	

EVENT 8

Cars from Events 1, 3, 4, 5. 20 Laps

R. Richter	Allard J-2	39:16.10
P. Hill	Jaguar XK-120	
J. McAfee	Jaguar XK-120	

LE MANS

(Continued from page 5)

and in five laps was in third place. Chinetti—last year's winner—had moved his Ferrari up to fifth.

Positions at Four Hours:

1. Talbot (Rosier) 45 laps, 95.65 mph
2. Ferrari (Chinetti-Heldé) 44 laps
3. Ferrari (Sommer-Serafini) 44 laps
4. Talbot (Meyrat-Mairesse 44 laps

At this point most of the cars were making refueling stops and Rosier, leading by reason of Sommer's long stay in the pits, established a new record of 102.84 mph for one lap of the 8.38 mile course.

It was now getting dark and the pace slackened to an average of a little more than 90 mph. Some of the cars, including the Cadillacs, carried recognition lights for the benefit of the pit crews. Sommer lost his lights thru electrical trouble and had to quit. As the night wore on into the early dawn of Sunday morning, a light mist settled onto portions of the course making conditions more difficult for the drivers already plagued with fatigue and failing brakes. The Delahaye, driven by Flahault, came in for fuel and caught fire under the hood while re-starting. After a moment of confusion with flames and smoke pouring out, the fire was extinguished and he drove off without even checking for damage!

Tom Cole, running second with his Allard, crept into the pits in low gear with the transmission emitting crunching noises. As it turned out, he was forced to continue with high gear only.

Positions at this point after 12 hours were:

1. Talbot (Rosier) 134 laps, 94.36 mph
2. Talbot (Meyrat-Mairesse) 128 laps
3. Jaguar (Johnson-Hadley) 127 laps
4. Healey (Rolt-Hamilton) 127 laps

Rosier now came in to be relieved by his son for a brief period shortly after 4 a.m. This was a short relief as the car came in after only a few laps for a rocker arm replacement. The time lost here allowed the second Talbot to lead at six o'clock with Leslie Johnson's Jaguar second in spite of failing brakes. Chinetti was now out with the differential gone in his Ferrari and Lucas, driving Selsdon's car, overturned after hitting sand to eliminate the final Ferrari.

By nine a.m. both of the 1100 cc Simcas were out—Blondel's with engine trouble and Madame Rovault's in Cunningham's sand bank. This left the lead in this class to a Renault, and since both 1500 cc Simcas were also out, the 1½ litre class was led by the Jupiter and Phillips' M.G.

At noon, after 20 hours, the positions were:

1. Talbot (Rosier) 215 laps, 90.24 mph
2. Talbot (Meyrat-Mairesse) 214 laps
3. Jaguar (Johnson-Hadley) 211 laps
4. Healey (Rolt-Hamilton) 210 laps

Shortly after 1 p.m. Johnson's Jaguar stopped on the slope before the pits and he leaped out to push it in. However, he couldn't make it and then ran to his crew for advice. The rules prohibit any help outside the pits, so the XK was forced to retire after 21 hours from what could very well have been third position. The main shaft of the transmission had broken.

Interest then centered on the match between Cole (Allard) and Rolt (Healey). The Talbots were running a steady and sure first and second with the Healey third. Cole, meanwhile, was lapping faster than anyone then running and trying desperately to catch Rolt while still only using high gear. Rolt was having his troubles, too, in the form of failing brakes and a rear end that was damaged after being rammed by a French car before dawn. Cole passed with 30 minutes to spare and by the race's end at 4 o'clock was safely third by 2½ miles.

The Cadillacs finished tenth and eleventh after holding approximately those positions thruout the entire race. The sedan, averaging 82.20 mph for 1,972.8 miles, completed almost two laps more than the special model. While tenth place may not seem high, it was in a field of sixty cars and the average speed was only 8 mph less than a slightly modified Grand Prix race car. Much valuable experience was gained for a further try next year.

18TH GRAND PRIX D'ENDURANCE
13th
ANNUAL CUP FOR DISTANCE COVERED

			miles	mph
1.	Talbot (Rosier-Rosier)	4,483 cc	2,153.2	89.72
2.	Talbot (Meyrat-Mairesse)	4,483 cc	2,143.3	89.30
3.	Allard (Allard-Cole)	5,434 cc	2,105.9	87.75
4.	Healey (Rolt-Hamilton)	3,846 cc	2,103.4	87.64
5.	Aston Martin (Abecassis-Macklin)	2,580 cc	2,094.3	87.26
6.	Aston Martin (Brackenbury-Parnell)	2,580 cc	2,047.0	85.29
7.	Delage (Louveau-Estanger)	2,999 cc	2,021.5	84.23
8.	Bentley (Hall)	4,257 cc	1,990.9	82.95
9.	Frazer-Nash (Mathieson-Stoop)	1,970 cc	1,972.8	82.20
10.	Cadillac (Collier-Collier)	5,439 cc	1,956.9	81.54
11.	Cadillac (Cunningham-Walter)	5,439 cc	1,951.8	81.33
12.	Jaguar (Clark-Haines)	3,441 cc	1,942.5	80.94

CLASS RESULTS

1,100 cc — Renault
1,500 cc — Jowett-Jupiter
2-litre class — Frazer-Nash
3-litre class — Aston Martin
5-litre class — Talbot
8-litre class — Allard-Cadillac

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DETROIT DIRT

by Sedanette

Emphasis is being placed on aspiration in the current crop of engines now being readied by Detroit's motor makers. Feeling here is that when, in a few years time, the overhead valve V-8s and sixes soon to be seen in America's cars are obsolete, they will be replaced by either much smaller supercharged engines or gas turbines.* Pioneering in the latter field by Rover in England and Boeing in this country is causing a lot of luncheon table discussion around Detroit. High production costs of the former and poor fuel consumption figures in the latter are against them now, but the slide-rule boys are busy speculating on the future.

CHRYSLER "in-the-know's" are wearing very smug expressions over the performance figures shown by the new Chrysler V-8 engine. Rumored to be the same as the Cadillac in bore and stroke, it is said to produce considerably more horsepower and torque. These are gained thru improvements in valving and manifolding. Compression ratio is in the vicinity of 7.6-1. to handle today's fuels. It will have a five main-bearing crank, of course, and will be quite light in weight. A push-rod overhead valve six will be along in the DODGE, DE SOTO and PLYMOUTH sometime after the V-8 makes its bow. Chrysler will drop the six.

FORD will probably bring out their new ohv V-8 in the '51 line sometime late in the fall. The car itself will be the same as the '50, with the usual face-lift grille, hubcaps, bumper guards, instrument panel, etc. being newly designed. The new engine's higher torque and increased horsepower will adequately handle the Borg Warner-built automatic transmission to be announced with the '51. A new ohv six (it is still obscure as to whether it will be the present block with a new head, or a brand new engine) will appear later on. The new V-8 will be around 125 or 130 hp and the six around 110. Ford may have an entirely new car out for '52.

BUICK still is rumored to be readying a V-8. Quite a bit of time and effort has gone into its design, and when it appears, it should be a honey. Considerable difficulty was experienced with the original cylinder head layout, which had a camshaft running down the center of a one-piece head that covered both banks with the valves arranged horizontally, similar to the prewar German Auto Union racing cars. Differences in coefficients of expansion of head and block caused head gasket troubles—leaks, etc. Thiy layout is said to have been abandoned in favor of a more conventional design.

OLDSMOBILE will soon drop the "76" from their production entirely, as it represents less than 5% of their sales total.

PONTIAC may introduce a new engine—another V-8 similar in design to the Olds—next year, dropping the straight eight.

CHEVROLET will continue as they are for another year or so.

KAISER is tinkering with an ohv six—to stay with the parade. The new '51 Kaiser has pleased everyone concerned with it—the public's acceptance has been excellent. The new little Henry J will be in the salesrooms soon—it should sell like the proverbial hotcakes. Said to be quite fast for its size—cruising at an easy 70-75, with a top of around 85.

NASH engines will continue "as is" for a while. Enthusiasts are missing a good bet in the big Nash ohv six—the only one built in this country today with a seven main crank. The British sports car which placed 4th at Le Mans, the Healey "Silverstone," was powered with a Nash Ambassador engine—the Ambassador Airflyte being one of America's fastest cars.

HUDSON will probably continue with their present 6 and 8—tho rumor persists that they will soon announce a G.M. Hydramatic transmission as an optional extra.

The engine picture seems to be, with very few exceptions, one of V-8s and sixes. All of the V-8s follow a typical pattern, that of five mains, push rod overhead valves, bore to stroke ratios of close to 1-1, low piston speeds, and very good, well thought out induction systems. The public will be offered some very potent automobiles, and it is hoped that steering, suspension and brakes will keep pace with engine design. If they don't, the American motorist—and the ambulance drivers—will certainly have their hands full!

Technical Editor John Bond violently disagrees with "Sedanette" on this prediction.

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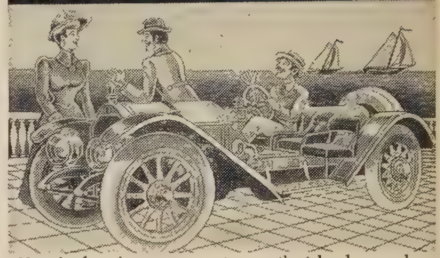

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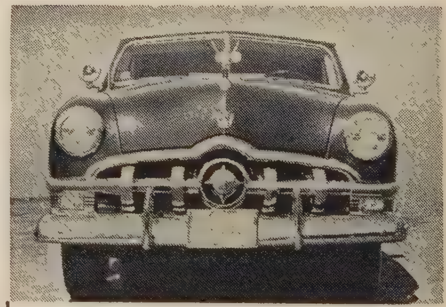

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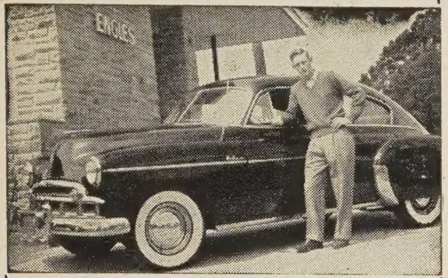

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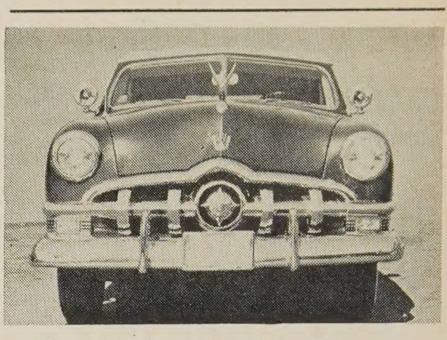

NEW CHROME GRILL TRIM

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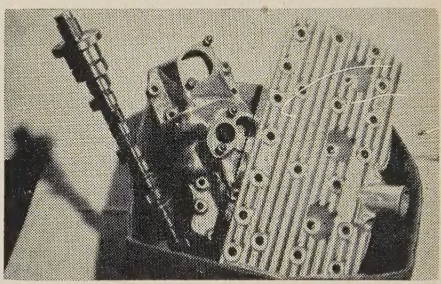

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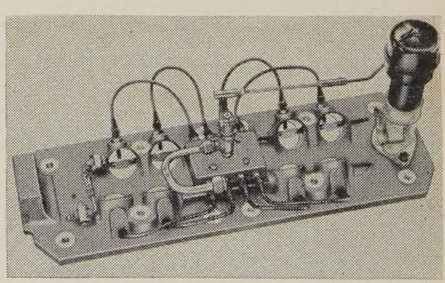
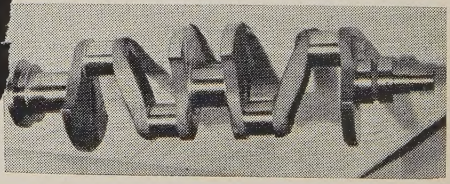
In a package deal recently announced by Warren Fraser's Custom Engine Parts, 5853 W. Washington Blvd., Culver City, California, the customer is supplied with aluminum cylinder head or heads, an aluminum dual intake manifold, and a re-ground camshaft by Iskenderian designed to match the other components. These combinations are available for all makes of cars and the company ships immediately.



NEW V-8 FUEL SYSTEM ANNOUNCED

Of great interest to competition car drivers and owners is the announcement by Howard's Cams of 10122 S. Main Street, Los Angeles, California, of a new fuel feed system for Ford V-8's and Mercurys called "Control-Flow". Quite similar in construction to fuel injection, this system accurately meters the flow of fuel to each individual intake port without the use of the customary manifold and carburetors.



180° CRANKSHAFT FOR V-8

For the owners of V-8's, from the little "60" to the big stroked Mercurys, there is now available a 180° crankshaft with camshaft to match. Made by the Norden Machine Works and available from Warren Fraser's Custom Engine Parts at a nominal price, this unit is a most valuable speed and power accessory because it provides better breathing and higher rpm. Made of chrome-moly steel, these cranks are equal to or better than original equipment. In addition, their lighter weight results in improved acceleration.

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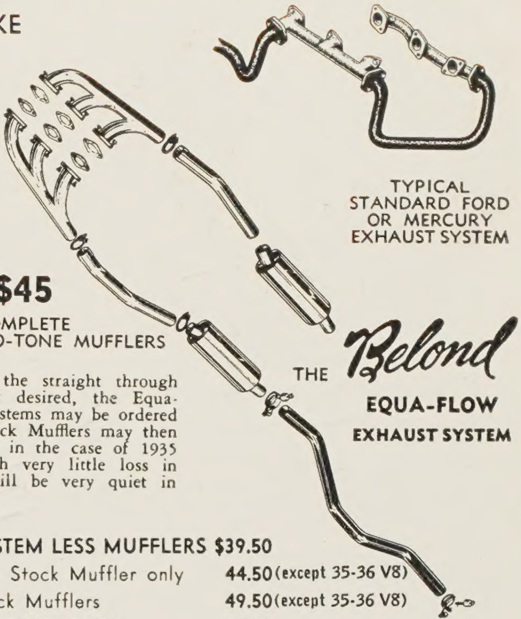
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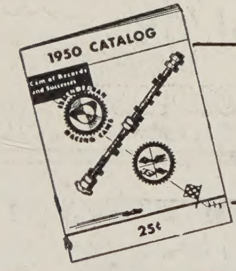

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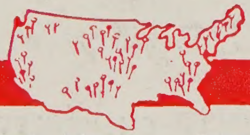

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